

NOTES ON SOME MISCELLANEOUS COLEOPTERA, WITH
DESCRIPTIONS OF NEW SPECIES.—PART III.

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[*Contribution from the South Australian Museum.*]

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PLATES XII. TO XV.

CICINDELIDAE.

CICINDELA ANTIQUA, n. sp.

Pl. xii., fig 1.

♂. Of a dull-golden colour, in places with greenish or fiery-red gleams; labrum, mandibles (tips black), palpi (tips metallic), and elytra (but these with conspicuous markings) milky-white; four basal joints of antennae metallic, the others pale but lightly infuscated towards tip; sterna golden-green in middle, becoming golden at sides, abdomen light castaneous, the sides paler. With dense white setae from apex of sides of prothorax to beyond middle of sides of abdomen, and more expanded on sides of metasternum than elsewhere; similar setae on femora, four front coxae, and forming a fringe at apex of prothorax.

Head densely and finely corrugated, becoming shagreened in middle of base. Labrum moderately long, middle produced and hooked, with four setiferous punctures near the margin. *Prothorax* lightly transverse, apex bisinuate, with a bisinuate impression near apex, another near base, and with a median connecting line; surface densely and finely vermiculate or coarsely shagreened. *Scutellum* with dense rugose punctures. *Elytra* much wider than prothorax, sides near apex finely serrated, each with a fine mucro at apex of suture; metallic parts densely, coarsely, and angularly punctate, especially about base. *Legs* long; three basal joints of front tarsi somewhat dilated, and densely clothed on one side of under-surface. Length, 10 mm.

Hab.—North-western Australia: Derby (W. D. Dodd). Type (unique), I. 7541.

Of the *ypsilon* group of the genus, from all of which it is readily distinguished by the coarse elytral sculpture (more than twice as coarse as in *rafflesia*). The metallic parts of elytra are very irregularly distributed, and are not alike on both sides; almost all the metallic parts of the upper-surface are without gloss (much like old metal), but the front parts

of the head are somewhat shining, and the parts below the eyes are very bright.

DISTYPSIDERA PICTIPENNIS, n. sp.

♀. Black, with a greenish or purplish gloss, the purple more pronounced on the under- than on the upper-surface; basal joint of antennae, base of mandibles, palpi (tips excepted), shoulders, base, and an interrupted median fascia on elytra, and parts of the legs, more or less flavous.

Head conspicuously corrugated between eyes, basal portion convex and finely shagreened. Labrum with three teeth (each marked by a setiferous puncture) on each side. Antennae rather long and very thin. *Prothorax* slightly longer than wide, with a conspicuous transverse impression near apex, and another near base; nowhere corrugated, but the disc very finely wrinkled, the sides being quite smooth. *Elytra* parallel-sided to near apex, where each is finely mucronate at the suture; with dense and large punctures, becoming transversely confluent only between median fascia and suture and behind the fascia. *Legs* very long and thin. Length, 13 mm.

Hab.—Queensland: Stewart River (W. D. Dodd). Type (unique), I. 7533.

In general appearance like *parva*, but larger, pronotum with wrinkling practically absent, and tip of labrum different. In Sloane's table *parva* is separated from *gruti* by the "Palpi pale testaceous" as against "Palpi with apical joints black";⁽¹⁾ this species would therefore (by that table) appear to be nearer to *gruti*, but it differs in being smaller, and with the markings of the elytra with punctures as on the adjacent spaces (as on *flavicans*, *flavipes*, and *parva*), very different to those of *gruti*, *hackeri*, and *volitans*. The pale portions of the elytra are a median fascia narrowed to the sides and interrupted before the suture, and the shoulders with the space adjacent to them both towards the suture, and in an oblique direction from the medio-basal depression; of the legs the pale parts are the trochanters, parts of the coxae, basal half and lower parts of the four front femora, and rather more than the basal half of the hind femora. The apical fifth of the elytra is conspicuously dark metallic-green, but between it and the median fascia the derm is more purplish, the two colours rather sharply limited.

MEGACEPHALA AUSTRALIS, Chaud.

A specimen of this species from Adelaide has parts of the four hind femora and tibiae deeply infuscated. There are

(1) On many specimens of *parva* in the Museum the apical joints are quite as dark as on many of *gruti*.

specimens in the Museum from Cooper Creek, Coward Springs, Goolwa, Hergott, Kangaroo Island, Karoonda, Oodnadatta, Orrallina Springs, and Strathalbyn.

MEGACEPHALA BOSTOCKI, Cast.

It is only the female of this species that has a conspicuous notch on each elytral margin; the black parts of the elytra occasionally have a purplish or greenish gloss. There are specimens in the Museum from Barrow Creek, Daly River, Derby, Laura, Roebuck Bay, and Tennant Creek.

MEGACEPHALA MURCHISONI, Fleut.

Mr. W. D. Dodd took a specimen of this species at Roebourne, whose elytra are deep purple, the head (except muzzle) and prothorax black, with purple gleams in places. There are normal specimens in the Museum from Cue, Kalgoorlie, and Lakes Austin and Lefroy.

CICINDELA IOSCELES, Hope.

On the more common form of this species (described as *hackeri* by Sloane) the white stripe near the side of each elytron is continuous from the base to near the apex, with several spur-like extensions towards the disc; but on many specimens the stripe is broken up into three disconnected curved spots. Specimens in the Museum are from Cairns, Cape York, Kuranda, Endeavour and Stewart Rivers.

CICINDELA QUEENSLANDICA, Sloane.

The only male of this species in the Museum differs from some females in being slightly smaller, and with the three basal joints of the front tarsi densely pilose on the under-surface. The late Mr. J. A. Anderson pointed out to me a short stretch of the beach at Cairns where he had occasionally seen it, and said that when disturbed it flew straight out to sea. Recently the species has been taken at the Stewart River, by Mr. W. D. Dodd.

CICINDELA PLEBEIA, Sloane.

I have taken this species in abundance at Nelson (near Cairns) by means of the sweep-net, and am averse to regarding it as a variety of *mastersi*. It is consistently much smaller than that species (or its variety *catoptriola*), invariably blackish, with curious longitudinal velvety patches on the elytra (certainly traces of these are sometimes to be seen on *catoptriola*), the lateral markings much reduced in size (sometimes absent), the postero-discal spot absent or very feeble, and the median tooth of the labrum much more prominent.

CICINDELA YPSILON, Dej.

var. *albicans*, Chaud.

C. ypsilon has very variable markings, and I have never been able to satisfactorily distinguish *albicans* from it; in Sloane's revision the two are separated by—

- ♂. Without mucro at sutural apex of each elytron and
with apical curve hardly serrate *ypsilon*
♂. With a short mucro at sutural apex of each elytron,
apical curve strongly serrate *albicans*

but in all the males I have seen (including many from Sydney) the male has a mucro at the apex, although it is usually very small; serrations are also present, although rather less distinct than in the Northern Queensland form recognized as *albicans*. At the most it appears that *albicans* should be regarded as a slight variety of *ypsilon*.

CICINDELA FRENCHI, Sloane.

The male (not described by Sloane) differs from the female in being somewhat narrower, with the three basal joints of front tarsi somewhat wider, and densely pilose on the under-surface. The metallic parts of the upper-surface are decidedly green on one of the males, especially on the head and prothorax. The Museum specimens are from Derby.

The other Australian species in the Museum are as follows:—

- MEGACEPHALA BLACKBURNI, Fleut. Elder Expedition.
M. CRUCIGERA, Macl. Cairns.
M. CYLINDRICA, Macl. Lake Callabonna, MacDonnell
Ranges, Peake.
M. FRENCHI, Sloane. Murchison.
M. GREYANA, Sloane. Western Australia.
M. HELMSI, Blackb. Types.
M. HOPEI, Cast. Derby.
M. HOWITTI, Cast. Lake Callabonna.
M. HUMERALIS, Macl. Stewart River.
M. MARGINICOLLIS, Sloane. Daly River.
M. MURCHISONI, Fleut. Cue, Kalgoorlie, Lake Austin.
M. SCAPULARIS, Macl. Northern Queensland.
DISTYPSIDERA FLAVICANS, Chaud. Northern Queensland,
Brisbane.
D. FLAVIPES, Macl. Cairns.
D. GRUTI, Pasc. Cairns, Coen, Endeavour and Stewart
Rivers.
D. HACKERI, Sloane. Coen River.
D. PARVA, Macl. Cairns, Coen River.

- D. UNDULATA, Westw. Brisbane, Gympie, Mungar Junction, Port Denison.
 D. VOLITANS, Macl. Mackay.
 CICINDELA ALBOLINEATA, Macl. Derby.
 C. BROWNI, Sloane. Lake Austin.
 C. DARWINI, Sloane. Darwin.
 C. DISCRETA, Schaum., var. FROGGATTI, Macl. Cairns.
 C. DODDI, Sloane. Cairns, Coen and Stewart Rivers.
 C. LEAI, Sloane. Cairns, Coen and Stewart Rivers.
 C. LEAI, var. NIGELLA, Sloane. Cairns, Coen, Daly, and Stewart Rivers.
 C. MASTERSI, Macl. New South Wales, Cue, Innamincka.
 C. MASTERSI, var. CATOPTRIOLA, Horn. Cairns, Cunnamulla, Darwin, Derby, Fortescue, and Stewart Rivers.
 C. NIGRINA, Macl. Cairns. Darwin, Kuranda, Coen and Stewart Rivers.
 C. RAFFLESIA, Chaud. Carnarvon.
 C. SEMICINCTA, Br. Cairns, Calvert Expedition, Endeavour and Fortescue Rivers, Mount Painter (Flinders Range), Port Darwin.
 C. SOETIGERA, Horn. Lake Alexandrina, Yorke Peninsula.
 C. TETRAGRAMMA, Boi. Kalgoorlie.
 TRICONDYLA APTERA, Oliv. Coen River.

PSELAPHIDAE.

HAMOTOPSIS AURICOMUS, Lea.

Taken by Mr. Feuerheerdt at Lucindale from nests of *Amblyopone australis*, and of *Ectatomma metallicum*.

BATRISODES BIMUCRONATUS, Raffr.

A specimen of this species was taken by Mr. E. H. Zeck from "amongst a swarm of small black ants, possibly *Iridomyrmex*, sp."

ARTICERUS FORTNUMI, Hope.

This species is common in many parts of South Australia, in nests of several species of *Iridomyrmex*. On one occasion 140 were taken from a small nest under a stone at Angaston; they were freely mating, and the ants appeared to take no notice of them.

ARTICERUS CYLINDRICORNIS, Raffr.

Common in many parts of South Australia in nests of *Iridomyrmex nitidus*.

PAUSSIDAE.

PAUSSUS AUSTRALIS, Blackb.

I examined the type of this species shortly after its description, and although it was recorded as from Mount Bartle-Frere in Queensland, was dubious as to the locality, and recently wrote to Mr. Arrow about it. In reply he wrote, "It is an Abyssinian species, I think *P. chevrolati*, Westw." No doubt the error was due to the misplacement of a label.

HISTERIDAE.

CHLAMYDOPSIS COMATA, Blackb.

Eucurtia paradoxa, Mjob.

Being doubtful as to whether these names represented more than one species, I asked Mr. Lewis' opinion as to the same; in reply he wrote, "Mr. Arrow and I have carefully compared the type of Blackburn's *C. comata*, with *Eucurtia paradoxa*, and we both consider the figure of the last species represents the first."

SCARABAEIDAE.

DIPHUCEPHALA REGALIS, n. sp.

♂. Golden-green or golden, elytra purple, legs flavous, hind tibiae (except base) and tarsi (except claws) and club of antennae black. Head and prothorax (except along middle) with depressed ochreous scales, under-surface and pygidium with denser and paler scales, middle of abdomen without scales, but with rather long, stramineous setae, becoming fasciculate at tip; legs with long setae, similar in colour to the parts on which they rest.

Head with fairly dense punctures, distinct at base but more or less concealed elsewhere; clypeus elongate, sides gently rounded, tips feebly elevated, the notch incurved to middle. *Prothorax* about as long as the basal width, apex much narrower than base, median line rather deep, narrow, and continuous, each side of middle with a transverse line completely isolated from median line, and marked by a conspicuous angle on the side; punctures rather small, sparse, and sharply defined, except where concealed by clothing. *Scutellum* polished and impunctate. *Elytra* distinctly wider than prothorax; with several feeble longitudinal ridges, between which are numerous irregular and rather shallow punctures, the whole (except for the shoulders) finely shagreened. *Front tibiae* with a strong tooth near the apical hook; front tarsi with first joint rather small, second very wide, third somewhat narrower, fourth small; hind tarsi much longer than tibiae. Length (♂, ♀), $6\frac{1}{4}$ - $6\frac{1}{2}$ mm.

♀. Differs in having the head smaller, clypeus with a conspicuous transverse carina, the tips less elevated, and the space between them less incurved, legs shorter, front tarsi much narrower, and abdomen more convex in middle, with the long setae less conspicuous.

Hab.—Queensland: Claudie River (J. A. Kershaw), Coen River (H. Hacker, from C. French's collection). Types in National Museum.

An extremely beautiful species, in some respects close to *pulcherrima*, but club black, no part of elytra reddish, and front tarsi much wider; from the variety of *nitens* with purplish elytra it differs in being larger, elytral punctures very different, and clothing of prothorax and head much denser, etc.

DIPHUCEPHALA NIGRITARSIS, n. sp.

♂. Golden green, parts of upper-surface with a reddish gloss, legs reddish-flavous, three or four apical joints of tarsi and club of antennae black. Rather densely clothed with depressed and moderately long setae, stramineous on upper-surface, whitish elsewhere, but black on dark parts of tarsi.

Head with crowded, reticulate, shagreened punctures; tips of clypeus strongly produced and rounded off, the notch deep and wide. *Prothorax* rather strongly transverse, sides acutely angular in middle, with a rather deep and wide median depression narrowed to apex, with a deep curved impression towards each side and almost traceable to middle; punctures much as on head. *Scutellum* polished and (except at base) impunctate. *Elytra* not much wider than prothorax, shoulders rounded, each with two rather feeble discal costae; with rather large and deep, sharply-defined punctures, many of which are transversely confluent. *Legs* moderately long; front tarsi scarcely wider than middle ones. Length, 8 mm.

Hab.—New South Wales: Barrington Tops, January, 1916 (H. J. Carter). Type (unique), I. 6668.

In general appearance close to *ignota*, but elytra with punctures larger, the transverse arrangement more evident, and the front tarsi much narrower; from *nitidicollis*, with which it would be associated in Blackburn's table, it differs in its much denser and otherwise different prothoracic punctures, larger elytral ones, and in its more golden colour. The elytral clothing (which has nowhere a linear tendency) is rather sparser than elsewhere; the tip of the pygidium is glabrous.

PHYLLOTOKIDUM BIMACULIFLAVUM, n. sp.

♂. Black, with a more or less purplish or brassy gloss; sides of prothorax narrowly flavous with a metallic gloss,

scutellum metallic-green, each elytron with a large irregular flavous spot, commencing near the base and occupying most of the basal third; parts of under-surface conspicuously green, legs varying from flavous to black, the femora more or less conspicuously green; parts of antennae and of palpi obscurely flavous. Sides of under-surface with rather dense, whitish hairs, elsewhere with scattered hairs; upper-surface almost glabrous.

Head with crowded and sharply-defined but not very large or deep punctures; clypeal suture well defined; labrum gently incurved to middle. *Prothorax* lightly transverse, sides moderately rounded in middle, front narrowed, with the front angles produced to about middle of eyes, hind angles almost rectangular, median line feeble; punctures sharply defined but not very dense. *Scutellum* except at tip with rather dense punctures. *Elytra* at base the width of prothorax, slightly dilated to beyond the middle; with irregularly distributed punctures of small size; striation feeble and irregularly defined. Four front *tarsi*, each with two conspicuous whitish lamellae between the claws. Length, $6\frac{1}{2}$ -7 mm.

Hab.—New South Wales: Dorrigo (H. J. Carter, from R. J. Tillyard). Type, I. 6885.

Much larger and very differently coloured to either of the two previously-named species (*macleayi* and *pictum*). Two specimens agree well in colour, a third has prothorax flavous, with a metallic gloss and two large irregular infusate vittae; its elytra are mostly flavous, with an irregular purplish post-median fascia narrowly connected along the sides with the shoulders; its sterna and legs are also mostly flavous, but with a greenish gloss.

MALACODERMIDAE.

LAIUS MIRACULUS, n. sp.

Pl. xii., fig. 2.

♂. Flavous or reddish-flavous; two small spots at base of head, two oblique elliptic discal spots on pronotum, each shoulder, and a large somewhat curved patch towards apex of each elytron, metasternum, hind tibiae, and tarsi, and tip of hind femora, more or less metallic-green; tips of pygidium, middle tarsi, and apical half of antennae infuscated. Clothed with short, sparse pubescence, and in addition (more noticeably on the elytra than elsewhere) with erect, blackish hairs.

Head minutely punctate; with a transverse semidouble impression at base, and a smaller (and also semidouble) one between eyes. Antennae short, first joint slightly longer than second and third combined, second larger than third, but

much the same shape, third-ninth equal in length but slightly diminishing in width, tenth distinctly longer than ninth. *Prothorax* rather widely transverse, much wider at apex than at base, a conspicuous pointed process from middle of apex, each side near apex with a large subtriangular excavation, overhanging each of which is a conspicuous pointed process; punctures small and sparse. *Elytra* parallel-sided, very little wider than apex of prothorax, finely wrinkled and shagreened. Second joint of front *tarsi* concealing third from above, with a conspicuous black curved rim. Length, $3\frac{3}{4}$ mm.

Hab.—North-western Australia: Fortescue River (W. D. Dodd). Type (unique), I. 7563.

Readily distinguished from all others of the genus by the three remarkable processes on the prothorax; it is one of the very few species whose (apparent) second joint of antennae is not distorted in the male. The spots at the base of the head are distinct on the type, but are so close to the base that they may be concealed on some specimens.

LAIUS APICICOLLIS, n. sp.

Pl. xiii., figs. 9, 31.

♂. Flavous; the elytra reddish-flavous, with the shoulders and a somewhat curved subapical patch on each metallic-purple; medio-basal portion of head, medio-apical portion of prothorax, metasternum, middle tarsi, hind tibiae and tarsi, and tips of femora and antennae (basal joints excepted) more or less black. With numerous erect blackish hairs, and sparse, fine, whitish pubescence.

Head largely and irregularly excavated at the base, with a conspicuous black semidouble tubercle in the middle; with minute scattered punctures. Antennae rather short, first joint as long as the three following combined, second-seventh of much the same shape, the second very little longer than third, eighth produced to one side at apex, ninth and tenth curved backwards. *Prothorax* moderately transverse, sides rather strongly rounded, middle of apex suddenly depressed, with from the edge of the depression a conspicuous semidouble elevation; with small, scattered punctures. *Elytra* not much wider than prothorax; surface wrinkled and with very fine punctures. Second joint of front *tarsi* concealing third from above, with a conspicuous black outer rim. Length, 5 mm.

Hab.—North-western Australia: Fortescue River (W. D. Dodd). Type (unique), I. 7562.

Readily distinguished from all other described species of the genus by the remarkable base of head and apex of prothorax; its nearest ally is *armicollis*, but that species has

the parts mentioned very different, and differs considerably in its markings.

LAIUS MIROCERUS, n. sp.

Pl. xii., fig. 3; pl. xiii., fig. 30.

♂. Dark metallic-blue (in places almost black); medio-apical portion of elytra and most of second joint of antennae reddish-flavous. Clothed with numerous erect, whitish and greyish hairs, and with sparse, whitish pubescence.

Head obliquely flattened in front; with rugose but rather small punctures. Antennae moderately long, first joint stout and somewhat angular, second large and distorted, convex on the lower surface, irregularly concave on the upper, third to ninth joints each with a ramus somewhat longer than its supporting joint, tenth joint somewhat longer than ramus of ninth. *Prothorax* fully twice as wide as long, sides strongly and evenly rounded; surface sparsely granulate-punctate. *Elytra* not much wider than prothorax, sides feebly dilated to near apex; finely wrinkled and shagreened and subgranulate. Front *tibiae* with apical third somewhat dilated, front tarsi with second joint very little larger than first, and not concealing third. Length (♂, ♀), $3\frac{1}{2}$ -4 mm.

♀. Differs in having less prominent eyes, antennae with the first joint smaller, second much smaller, not distorted and much the shape of third, fourth to ninth serrate, prothorax flavous with a black discal patch, front tibiae shorter, not dilated at apex, and front tarsi thinner.

Hab.—Victoria: Sea Lake (J. C. Goudie, his Nos. 803 and 808). Type, I. 7587.

Readily distinguished from all others of the genus by the pectinate antennae of the male; on two females there is a black, discal, isolated blotch on the pronotum, but on two others the blotch is larger and connected with each side towards the base. The female in some respects resembles some females of *distortus*, but the antennae are more noticeably serrated with the eleventh joint conspicuously longer, and the elytral punctures much less noticeable.

LAIUS MELANODERES, n. sp.

Pl. xiii., figs. 10, 32, 33.

♂. Black; a wide median fascia on elytra narrowly connected along suture with a dilated apical portion, abdomen (each segment infuscated on each side) and second joint of antennae flavous. Comparatively densely (for the genus) clothed with short, whitish pubescence.

Head rather wide, with prominent eyes; punctures moderately dense and rugose. Antennae not very long, first

joint stout and dilated to near apex, second large, distorted, and lop-sided, convex on lower-surface, irregularly concave on upper, the following joints all short. *Prothorax* very little wider than long, sides rounded and distinctly wider at apex than at base, with a transverse depression near base; with dense and small, subrugose punctures, but becoming rather sharply defined on sides. *Elytra* wider than base of prothorax, sides gently dilated to beyond middle; with dense and small but sharply-defined punctures, quite as distinct on all parts of the black markings as elsewhere. Length (σ , ♀), 2-2½ mm.

♀ . Differs in having first joint of antennae smaller, second joint much smaller and not distorted, and in the front tarsi.

Hab.—Northern Queensland (Blackburn's collection). Type, I. 7569.

The pattern of the elytral markings is somewhat as on some of the smaller species, but the entirely black prothorax and curious second joint of antennae are very distinctive; the second joint of the antennae of the female is much larger than is usual on that sex, being almost as long as the third and fourth combined, and considerably stouter.

LAIUS FLAVONOTATUS, n. sp.

Pl. xiii., figs. 11, 34, 35.

σ . Black, with a vague bluish gloss; elytra with seven flavous spots, second joint of antennae and part of abdomen reddish-flavous. Clothed with short, blackish pubescence.

Head gently convex, with a longitudinal impression in middle, with an impression in front of each eye; with dense and small punctures. Antennae short, first joint stout, with an angular elevation in middle, second large and distorted, convex on the lower-surface, irregularly concave on the upper, and with irregular elevations, appearing different from almost every point of view, the following joints all short. *Prothorax* strongly transverse and evenly convex, sides strongly rounded; with small and very dense punctures. *Elytra* at base not much wider than base of prothorax, but distinctly dilated to near the apex; with dense, fairly large, and sharply-defined punctures, smaller and sparser on the postmedian and apical spots than elsewhere. Second joint of front *tarsi* rather large and lop-sided. Length (σ , ♀), 2¼-2¾ mm.

♀ . Differs in having the head scarcely impressed along middle, and not excavated in front of eyes, first joint of antennae smaller and simple, second much smaller and simple (it is, however, much larger and stouter than the third), and in the front tarsi.

Hab.—Northern Queensland (Blackburn's collection). Type, I. 7568.

A small black species, with elytral spots very different to those of any previously-described Australian species; they are almost sulphur-coloured, and four form a transverse series just before the middle, two near the apex, and one (common to both) at the apex itself. The excavation in front of each eye of the male is narrowly margined with flavous; the elytral suture is less elevated than is usual in the genus.

LAIUS SORDIDUS, n. sp.

♀. Of an opaque, dingy, light castaneous-brown: three basal joints of antennae paler, the others infuscated, elytra with obscure markings across the basal fourth and across the middle. With numerous long, erect, blackish hairs scattered about.

Head larger than usual, densely and finely punctate or shagreened: with a narrow median line. Antennae not very long, first joint about as long as three following combined, second almost as long as two following combined, the others all small, but tenth distinctly longer than ninth. *Prothorax* moderately transverse, sides strongly rounded in front, and subarcuate towards base, with a wide sub-basal depression, surface sculptured much as head. *Elytra* much wider than base of prothorax, sides dilated to near apex; surface shagreened and very densely punctate. Hind *tibiae* rather long and moderately curved. Length, $3\frac{1}{2}$ – $3\frac{3}{4}$ mm.

Hab.—Queensland: Hughendon (A. M. Lea). Type, I. 7570.

A sordid species in general appearance, strikingly different to any other known from Australia, and hence has been described, although only two females were taken. On the basal fourth of the elytra there is an obscure infuscated fascia extending from the side to the suture, at the middle there is another fascia, distinct at the sides but very feeble towards the suture; the space between the two fasciae is conspicuously paler than elsewhere on one specimen, but not much so on the other.

LAIUS AMMOPHILUS, n. sp.

Pl. xiii., figs. 12, 13.

♀. Bright metallic bluish-green or purplish; prothorax, parts of elytra and of appendages flavous, rest of appendages and under-surface black, with a more or less metallic gloss. Clothed with rather short, suberect pubescence.

Head with crowded and comparatively coarse punctures. Antennae moderately long, first joint as long as second and

third combined, second as long as third and fourth combined, tenth distinctly longer than ninth. *Prothorax* widely transverse, sides strongly rounded; punctures at sides much as on head, but less crowded in middle. *Elytra* at base not much wider than widest part of prothorax, sides gently dilated to near apex; surface finely shagreened and with comparatively coarse, crowded punctures, no sparser on any of the metallic parts than elsewhere. Length, $3\frac{1}{2}$ -4 mm.

Hab.—South Australia: Lake Callabonna (A. Zietz), Orrallina Springs (R. T. Maurice). Type, I. 7583.

I have named the specimens before me, although they are females, as the elytral markings are quite as densely and strongly punctured as the surface in their vicinity; the head is also unusually flat, and with punctures very similar to those on the elytra. Four specimens were taken, of which two (one of which is the type) have the whole of the dark markings on the elytra connected (fig. 12), on the other two (fig. 13) the basal and subapical markings are disconnected, but the subapical ones are connected across the suture. On three specimens the antennae are pale, but infusate towards the tips, but the specimen from Orrallina Springs has the eight apical joints black, with a slight bluish gloss; the front tibiae and tarsi are flavous, the middle ones somewhat infuscated.

LAIUS ACERVATUS, n. sp.

Pl. xiii., figs. 14, 36, 37.

♂. Flavous or reddish-flavous; head (parts of muzzle excepted), scutellum, mesosternum, metasternum, most of abdomen, hind femora, and part of middle femora black, with a slight metallic gloss, tarsi and part of front femora infuscated; each elytron with a large basal spot (the two conjoined at suture), and a large, free, suboval, subapical spot metallic-green (or blue). Moderately densely clothed with short, suberect, whitish pubescence.

Head almost flat between eyes, and with very minute punctures. Antennae moderately long, first joint stout and dilated to apex, second large and distorted, convex on lower-surface, irregularly concave on upper, third to ninth moderately long and lightly serrate, tenth thin, as long as eighth and ninth combined. *Prothorax* almost twice as wide as long, sides strongly rounded; with fairly distinct punctures on sides, but sparse and indistinct in middle. *Elytra* very little wider than prothorax, almost parallel-sided to near apex; with dense and small, but sharply-defined punctures, as distinct on all parts of metallic markings as elsewhere. Second joint of front tarsi with a conspicuous, black outer rim. Length (♂, ♀), $3\frac{1}{2}$ -4 mm.

♀. Differs in having the eyes less prominent, no part between these and the antennae flavous, the antennae shorter; first joint less dilated to apex, second much smaller and simple (but almost as long as the third and fourth combined), elytra less parallel-sided, and in the front tarsi.

Hab.—Queensland: Winton (A. M. Lea).

A small species with elytral punctures quite as sharply defined on the whole of the metallic parts as elsewhere; a character by which it may be readily distinguished from *carus*, *eyrensis*, and other species with somewhat similar markings; the entirely pale antennae are also distinctive. A female (from Hughendon) appears to belong to the species, but is not quite so brightly coloured.

LAIUS STENOTARSUS, n. sp.

Pl. xiii., figs. 15, 38.

♂. Flavous; head (except sides of muzzle), seven apical joints of antennae, scutellum, mesosternum, metasternum, most of abdomen, hind legs, and most of middle ones, black or blackish; elytra metallic-blue, with a wide, median, flavous fascia dilated at suture and sides. Clothed with long, straggling, blackish hairs, and with sparse, pale pubescence.

Head with dense and minute punctures. Eyes more prominent than usual. Antennae moderately long, first joint stout, dilated to apex and there acutely produced upwards, second large and distorted, convex on the lower-surface and irregularly concave on the upper, with an obtuse elevation at the middle of the inner edge, third joint longer than fourth, the others feebly decreasing in size, but tenth distinctly longer than ninth. *Prothorax* strongly transverse, sides strongly and evenly rounded, a shallow transverse depression towards base. *Elytra* not much wider than widest part of prothorax, sides almost parallel to near apex; with crowded and rather small, but sharply-defined punctures, becoming much smaller and sparser on parts of the metallic markings. Front *femora* largely excavated in middle; front tarsi much thinner than usual, but second joint with a thin black outer rim. Length, 3 mm.

Hab.—Northern Territory: Daly River (H. Wesselman). Type (unique), I. 7577.

Of the size and general appearance of *carus*, and with similar (except as to colour) front legs, but apical markings of elytra connected across suture, two basal joints of antennae entirely pale, the projection at tip of the first joint stouter, and the second somewhat different in shape; from *egenus* it differs in being narrower, with coarser punctures on the basal markings of elytra, and in its pale front legs. A single

specimen was sent (with many other insects) as having been taken from an insect-catching plant.

LAIUS CONCAVIFRONS, n. sp.

Pl. xiii., figs. 16, 39.

♂. Flavous, in places reddish-flavous; basal half of head, scutellum, metasternum, and most of abdomen black, apical half of antennae more or less lightly infuscated; elytra with two longitudinal metallic-blue or purple vittae, each narrowed in middle. Clothed with short, blackish, upright setae, and with very sparse pubescence.

Head gently convex between eyes (these unusually prominent) and concave in front, the concavity bounded on each side by a distinct oblique ridge; with minute, irregularly-distributed punctures. *Antennae* moderately stout, first joint incurved on one side, subangularly dilated on the other, second large and distorted, convex on lower surface, irregularly concave on upper, triangularly produced on inner side of base, none of the following joints serrated, tenth distinctly longer than ninth. *Prothorax* strongly transverse, sides strongly rounded, with a transverse depression near base; sides with dense and subrugose punctures, the middle shining and with sparse and minute ones. *Elytra* not much wider than widest part of prothorax, sides feebly dilated to near apex; with crowded and sharply-defined punctures, becoming much smaller and sparser on parts of the metallic markings. Second joint of front *tarsi* partly overhanging third, and with a conspicuous, black outer rim. Length (♂, ♀), 3-3½ mm.

♀. Differs in having less prominent eyes, scarcely concave in front, antennae shorter, first joint smaller and thinner, second much smaller and simple (not as long as the third and fourth combined), elytra less parallel-sided, and in the front *tarsi*.

Hab.—Western Australia: Cue (H. W. Brown). Type, I. 7576.

The elytral markings are suggestive of some forms of *flavopictus*, but structurally the species is closer to *eyrensis*, from which it differs in the longitudinally-connected markings of elytra (on one female the markings are blackish and almost disconnected in the middle), red muzzle, with sides of head conspicuously elevated, and in the very different basal joints of antennae. The suture and margins of elytra are now conspicuously red, in strong contrast to the flavous parts, but not much reliance is to be placed on this, as in all probability the pale parts in time will become of a uniform shade of colour. On some of the specimens the front

of the prothorax is semitransparent, allowing part of the head to appear as a dark subapical line; but this also will probably disappear in time. There are nine specimens under examination, but only one male.

LAIUS FILAMENTARIUS, n. sp.

Pl. xiii., figs. 17, 40.

♂. Reddish-flavous; head (except apical third) and elytral markings bright metallic-blue (or purple); scutellum, mesosternum, metasternum, parts of abdomen, legs, and seven apical joints of antennae black, with a more or less distinct bluish gloss. Upper-surface with numerous long, upright, blackish hairs, head, under-surface, and legs moderately densely pubescent.

Head flattened between eyes, with a shallow depression in front and another across base; punctures inconspicuous. Eyes rather large and prominent. Antennae moderately long, first joint stout, dilated to near apex, second large and distorted, convex on lower-surface, irregularly concave on upper, with two long, thin filaments (each about the length of the first joint) projecting obliquely backwards from the front edge, the edge between them semicircularly notched, the following joints all longer than wide, and not serrated, tenth distinctly longer than ninth. *Prothorax* strongly transverse, widest at apical third, with a shallow depression near base; punctures very sparse and small. *Elytra* at base scarcely wider than widest part of prothorax, sides feebly dilated to near apex; with crowded and rather coarse, sharply-defined punctures, becoming much smaller and sparser on most of the metallic parts. Front *tarsi* with two basal joints closely applied together. Length (♂, ♀), 5-6 mm.

♀. Differs in having the head smaller, with less prominent eyes, depressions less distinct, with an almost isolated flavous spot in front; antennae with first joint thinner, second much smaller and simple (about as long as third and fourth combined), elytra less parallel-sided, and in the tarsi.

Hab.—Queensland: Emerald (twelve specimens, A. M. Lea); New South Wales: Albury (Blackburn's collection). Type, I. 7547.

In general appearance like large specimens of *bellulus*, but at once distinguished from that species (as from all others of the genus) by the two long filaments on the second joint of the male antennae (the male of *hackeri* has two long processes there, but they are of very different shape, and that species differs in many other respects). Part of the basal joint of the male antennae is blackish, and the second joint has a narrow blackish line (invisible from above). The

metallic markings of the elytra occupy more than half of the surface, and leave a zig-zag median fascia and an irregular subquadrate apical patch pale; the pale parts are reddish-flavous, becoming flavous where they join the dark parts, but on some specimens the pale parts are already of uniform colour; the dark parts become more conspicuously purplish where they adjoin the median fascia. The specimen from the Blackburn collection is a female, and agrees in all respects (including the subisolated medio-frontal spot) with females from Emerald.

LAIUS FLAVIFRONS, n. sp.

Pl. xiii., figs. 18, 41, 42.

♂. Flavous, in places reddish-flavous; basal half of head, scutellum, mesosternum, metasternum, tip of abdomen, most of legs, and eight apical joints of antennae black, with a more or less distinct metallic gloss; elytra with a rather wide basal fascia, and a large postmedian spot, metallic-purple or deep blue. Clothed with long, straggling, blackish hairs, and with fairly distinct, whitish pubescence.

Head obliquely flattened, sides obliquely narrowed in front of eyes; with minute punctures. Antennae rather short, first joint stout and dilated to apex, second large and distorted, convex on lower-surface, irregularly concave on upper, the following joints rather short, but tenth distinctly longer than ninth. *Prothorax* strongly transverse, sides strongly rounded; with numerous subasperate punctures on sides, becoming smaller and sparser in middle. *Elytra* not much wider than prothorax, almost parallel-sided to near apex; with dense and rather small, but sharply-defined punctures, less distinct on parts of metallic markings than elsewhere; with feeble, piliferous granules. Second joint of front *tarsi* almost concealing third from above, and with a narrow black rim. Length (♂, ♀), 4-5 mm.

♀. Differs in having the eyes less prominent, medio-apical portion less depressed, the flavous portion considerably smaller; antennae with first joint smaller, second much smaller and simple (but considerably larger than third and almost as long as third and fourth combined), elytra less parallel-sided, and in the front *tarsi*.

Hab.—Western Australia: Cue (H. W. Brown). Type, I. 7584.

The elytral pattern is much as on *nodicornis* and *bellulus*, but the head and antennae are very different; *cavicornis* is very similar in colour, but also has very different antennae. The pale muzzle of the male has a curious triangular appearance; on the male the hind legs, middle tibiae, and *tarsi* are

blackish, with the front tibiae infuscated; on the female the legs are almost entirely black; the large subapical spots on the elytra are usually separated, but on one specimen the suture between them is infuscated. The basal joint of the male antennae has a short but rather acute process, which is invisible from most directions, owing to the overlapping tip of the first joint.

LAIUS AULACOPHOROIDES, n. sp.

Pl. xiii., figs. 19, 43, 44.

♂. Flavous, basal half of head and scutellum black; a large spot on each shoulder and a large, curved, supapical spot on each elytron (each of the latter touching its fellow across the suture) metallic-purple (or blue, or bluish-green): metasternum black or infuscated, extreme tip of antennae infuscated with moderately dense and not very long, upright, whitish and greyish setae.

Head with feeble depression in front, and with very small punctures. Antennae short, first joint stout, angularly dilated in middle on one side, second large and distorted, convex on lower side, irregularly concave on upper, third to sixth joints obtusely serrated on one side, the others more rounded, tenth pointed and almost twice the length of ninth. *Prothorax* almost twice as wide as long, sides strongly rounded, apex truncate and much wider than base; sides with rather coarse punctures, but becoming small and sparse in middle. *Elytra* comparatively short, base much wider than base of prothorax; with dense and asperate but rather sharply-defined punctures, becoming smaller and sparser on parts of the metallic markings. Second joint of front *tarsi* partly overlapping third, and with a conspicuous black rim. Length (♂, ♀), 5-6 mm.

♀. Differs in having the eyes less prominent, antennae with first joint much smaller, second much smaller and simple (much stouter than third, and about as long as third and fourth combined), tip of abdomen black, and in the front *tarsi*.

Hab.—North-western Australia (Blackburn's collection). Type, I. 7572.

In general appearance somewhat like *verticalis* (W. S. Macl.), but with subapical markings not quite the same in pattern, and without similar punctures to those on the adjacent parts. At first glance it strikingly resembles *Aulacophora hilaris* and other four-spotted species of that genus. The second joint of the male antennae (in addition to some vague depressions) has three conspicuous foveae (two near the apex and a much larger one near the base).

About half of the females have the hind femora conspicuously black in the middle.

LAIUS NODICORNIS, Blackb.

A variety of this species (apparently commoner than the typical form) occurs, whose pronotum has a conspicuous, subquadrate, blackish blotch. Such specimens in general appearance rather closely resemble *villosus*, *orthodoxus*, and *plagiaticollis*, but may be at once distinguished by the second joint of the male antennae. The female, described at the same time as the typical male, had such a blotch, but it is not confined to that sex.

Hab.—New South Wales: Wentworth; South Australia: Petersburg, Adelaide, Minnipa Hill, Leigh Creek; Western Australia: Kalgoorlie.

LAIUS VARIEGATUS, Blackb.

Pl. xiii., fig. 20.

The type of this species is before me, and is a female. I have seen no other specimen agreeing with it in markings, but it is certainly allied to *quinquenotatus*, having the post-median dark elytral markings quite as densely punctate as the adjoining surface; in fact, it seems possible that it should be regarded as a variety of that species. The prothorax was described as "*fulvo, antice transversim late nigro-unilineato, disco maculatim infuscato*," but is now uniformly flavous; probably the specimen when described had the pronotum semitransparent, allowing part of the head to appear as a dark transverse line (such apparent transverse lines are often to be seen in fresh specimens of the genus).

LAIUS PRETIOSUS, Blackb.

Pl. xiii., figs. 21, 45, 46.

A male of this species (from Lake Callabonna) differs from the female in having the first joint of antennae stouter, and the second much larger and distorted, convex on the lower-surface and irregularly concave on the upper; the two specimens before me have the discal blotch on the pronotum so large that only a narrow flavous border is left; the elytral markings are somewhat like those of *trisinatus*, but the surface is shagreened, rather than punctate.

LAIUS EYRENSIS, Blackb.

Pl. xiii., figs. 22, 47, 48.

The pattern of the elytral markings of this species is somewhat similar to those of *sinus*, but the prothorax is much

more transverse, and the two basal joints of antennae of the male are very different.

Hab.—South Australia: Leigh Creek, Oodnadatta.

LAIUS EGENUS, Lea.

Two females from Murray Bridge evidently belong to this species, but differ from the types in having the apical portion of the elytra not entirely black, as there is a somewhat elliptic pale space on the suture, and on one of them this is narrowly connected with the median fascia.

LAIUS TARSALIS, Lea.

Several females of this species (from Cairns) have a large black spot on the disc of the pronotum, truncated in front and bilobed behind; there are also two small spots at the base.

LAIUS VERTICALIS, W. S. Macl.

Mr. W. D. Dodd took three females of this species at Derby, but the male is still unknown.

LAIUS TRISIGNATUS, Germ.

L. oblongosignatus, Fairm.

Several females (from Dalby) have the medio-sutural markings of the elytra connected with the medio-apical one, and agree with the description of *oblongosignatus*, which I can only regard as a slight variety of *trisignatus*.

Hab.—Queensland: Cairns, Dalby; South Australia: Wirrabara, Mount Lofty, Adelaide.

LAIUS QUINQUENOTATUS, Fairm.

Pl. xiii., figs. 23, 49, 50.

This species occurs in abundance on a myrtaceous shrub at Rockhampton (the type locality), but when beating such shrubs into an umbrella a few years ago very few of the species fell into it, as they almost invariably at once took to flight; this is in strong contrast to the sluggish habits of most species of the genus. The type was a male, as the obtuse tooth in the first joint of the antennae was mentioned; this tooth is at the apex of the joint, projects almost vertically upwards, and its tip is obtusely notched, the second joint is very large, convex on the lower-surface, and irregularly concave on the upper; the front femora have an excavation on the upper-surface as on the males of *cinctus*, and of several other species. The female differs in having the two basal joints of antennae simple and not so brightly coloured, and the front femora and front tarsi simple.

VAR. 1. A male from the Coen River agrees in all respects with the typical form, except that the prothorax is entirely pale; and a female from Prince of Wales Island has the prothorax similarly pale.

VAR. 2. A female (fig. 23) from the Mary River appears to represent another variety. It has the prothorax immaculate, and the dark mark at the base of the elytra disconnected with the apical ones, and these connected only at the apex; this variety certainly seems to be a connecting link with *variegatus*.

LAIUS CINCTUS, Redt.

A variety of this species, from Adelaide, has the dark parts of the head and elytra entirely of a deep, shining black.

Hab.—Queensland: Gayndah; New South Wales: Sydney, Galston, Hornsby; Victoria: Alps and Dividing Range; South Australia: Lucindale, Mount Lofty, Adelaide, Largs Bay, Kangaroo Island.

Some other species in the Museum are from the following localities:—

L. BELLULUS, Guer. Queensland (Longreach, Emerald, Rockhampton, Gayndah, Dalby, Mount Tambourine), Victoria (Alps, Geelong), South Australia (Karoonda to Peebinga, Lucindale, Adelaide, Mount Lofty, Gawler, Leigh Creek, Mount Painter, Lake Callabonna, Port Lincoln, Kangaroo Island), Northern Territory (Tennant Creek).

L. FLAVOPICTUS, Lea. South Australia (Mount Lofty, Strzlecki Creek).

L. INTERMEDIUS, Lea. Western Australia (Warren and Capel Rivers).

L. PURPUREICEPS, Lea. Western Australia (Cue).

The species known to me (including those here described) and not included in the table in the Transactions of the Entomological Society of London (1908, pp. 152-154) may be added to that table as follows:—

A. *L. purpureipennis*, Lea. The differences between this species and *alleni* reside mainly in the antennae of the male (see description; *ante*, 1916, p. 321).

B. Prothorax with an apical process. (2)

* Each side also with a process *miraculus*

** Without lateral processes.

† Apical process strongly produced and acutely pointed *armicollis*

†† Apical process less produced and bilobed *apicicollis*

BBB. * Antennae pectinate in male *mirocerus*

** Antennae not pectinate in male C and CC

(2) An alteration from the original, rendered necessary by *apicicollis*.

- C. * Elytra with a continuous median fascia ... *melanoderes*
 ** Without such a fascia.
 † Elytra with seven isolated pale spots ... *flavonotatus*
 †† Elytra with at most four isolated pale spots ... *trisignatus*
 CC. b. * Elytra with a whitish elevated transverse line ... *minutus*
 ** Elytra without such a line ... *quinquenotatus*
 bb. gg. * Dark portion of pronotum leaves only a narrow pale margin ... *pretiosus*
 ** Dark portion much less extensive *h* and *hh*
 DD. * Elytral markings not sharply defined ... *sordidus*
 ** Elytral markings sharply defined ... *E* and *EE*
 E. * Size much above average ... *j* and *jj*
 ** Of average size or small.
 † Punctures between eyes coarse.
 ¶ Legs entirely reddish (at most lightly infuscated in parts) ... *purpureiceps*
 ¶¶ Legs mostly black ... *ammophilus*
 †† Punctures between eyes very fine.
 ‡ Head behind antennae partly pale.
 △ Second joint of antennae of male strongly produced forwards ... *hackeri*
 △△ Second joint strongly produced backwards ... *cavicornis*
 †† Head behind antennae entirely dark.
 § Each dark subapical spot entire ... *acervatus*
 §§ Each dark subapical spot encloses a pale spot ... *variegatus* (5)
 k. * Front legs dark ... *egenus*
 ** Front legs pale ... *stenotarsus*
 FF. * Male with two long filaments on second joint of antennae ... *filamentarius*
 ** Male without such filaments ... *G* and *GG*
 G. (4) * Markings longitudinally connected ... *concavifrons*
 ** Markings not so connected.
 † Medio-apical portion of head dark ... *eyrensis*
 †† Medio-apical portion pale ... *flavifrons*
 GG. * Second joint of antennae entirely pale ... *aulacophoroides*
 ** Second joint partly or entirely dark ... *H* and *HH*

LYMEXYLONIDAE.

ATRACTOCERUS VICTORIENSIS, Blackb.

Pl. xii., figs. 5, 6.

The type of this species was stated to be in Mr. C. French's collection; in that collection (now in Melbourne in the National Museum) there were three specimens standing under that name,⁽⁵⁾ but Blackburn's original label has been removed; one specimen (a female) was specially labelled by Mr. French, and as it is the only one of the length ($10\frac{1}{4}$ lines)

(3) The type and only known specimen is a female.

(4) On most specimens of *flavifrons* the dark subapical markings terminate at or near the suture, but on one specimen the suture itself is infuscated.

(5) By the courtesy of Mr. J. Kershaw I have been able to examine them.

given, it is presumably the type; there are also two co-type females in the South Australian Museum. Its antennae have the joints swollen after the second, and after the sixth conspicuously decrease in width with the apical joint pointed. The palpi are also peculiar and somewhat as figured, but as certain of the parts appear to be adjustable they look different from different points of view, and on different specimens. The male has antennae with the third joint wider than the second, but not to such a great extent as in the female, and the joints rapidly decrease in size to the sixth, which is only about one-third the size of the second, the five following joints are very thin. The length ranges from 12 to 22 mm. Three other specimens in the National Museum were taken out of piles in the Moe River, at Yarragon, by Mr. W. Kershaw.

ATRACROCERUS TASMANIENSIS, n. sp.

Pl. xii., fig. 4.

♂. Black; abdomen with a purplish gloss. In places (including eyes) with short and more or less upright setae or pubescence.

Head rounded; densely granulate-punctate; with a conspicuous median carina the length of eyes. Eyes large, fairly close together in front. Antennae short, first joint moderately large, second subglobular, third shorter but a trifle wider than second, fourth to sixth rapidly decreasing in size, seventh to eleventh thin. *Prothorax* longer than wide, widest near apex, with a deep median groove; with dense and sharply-defined punctures on sides, becoming sparser towards middle. *Elytra* almost as long as head and prothorax combined; finely shagreened, but about base with distinct punctures. *Abdomen* long, thin, and parallel-sided. Front legs rather short, the others long and thin. Length, 14-16 mm.

Hab.—Tasmania: Triabunna (G. H. Hardy). Type, I. 6740.

The smallest Australian species of the genus, and readily distinguished from the others by its carinated head. The palpi are of remarkable shape, but I have been unable to see them very clearly. The three Australian species may be thus tabulated:—

Eyes practically touching	...	...	...	...	kreuslerae
Eyes moderately separated.	...	...	...	...	
Head not carinated	...	...	...	...	victoriensis
Head longitudinally carinated	...	...	...	...	tasmaniensis

LYMEXYLON AUSTRALE, Er.

L. adalaidae, Blackb.

The type of *australe* was described as being black with piceous legs, and four Tasmanian specimens before me agree

with the description. Four Tasmanian specimens from Blackburn's collection were standing under the name of *australe*, and structurally they agree with the other four, but they differ in being considerably paler, only the head and prothorax being piceous, the elytra somewhat paler, and the legs and palpi of a rather dingy castaneous-brown. Three Victorian specimens in the National Museum are intermediate in colour. *L. adelaidae* (of which the type is before me) appears to represent only a slight colour variety; the differences in the punctures mentioned by Blackburn are of an individual rather than of a specific nature, and the interstices are much alike; the depth and width of the prothoracic impression are also liable to individual variation.

PTINIDAE.

Dr. Mjoberg has recently published a paper dealing with Australian *Ptinidae* (Arkiv för Zoologi, 1916, Band 10, No. 6).⁽⁶⁾ By stating (p. 1) that only ten Australian species of *Ptinus* were described, and that of *Ptinus albomaculatus*, Macl., "nothing of later literature (than the original description) dealing with the species can be found," it is evident that he had overlooked my paper in the Proceedings of the Linnean Society of New South Wales for 1911 (pp. 468-474), in which seven new species of the genus were described, and *albomaculatus* was redescribed.

He proposes five new genera for myrmecophilous species, but of these only one new genus is formally described; of the others *Decemplocotes* (p. 2) is proposed for *Diplocotes decem-articulatus*, Lea, and *D. strigicollis*, Lea; *Leaptinus* (p. 3) for *Paussoptinus dolichognathus*, Lea; *Mesectrephe*s (p. 3) for *Ectrephe*s *kingii*, Westw.; and *Monectrephe*s (p. 3) for *E. pascoei*, Westw. On pp. 6, 7 is given a table of subfamilies, and on pp. 7, 8 a key to the genera; the student being left to gather information of the new genera from these, sometimes wrong, particulars. The part of the key dealing with the *Ectrephinae* is as follows:—

- | | |
|---|-----------------------------|
| A. Antennae with a flat club consisting of
5 joints | <i>Ectrephe</i> s, Pasc. |
| B. Antennae with the joints and the club,
firmly grown together into a broad
club, showing only indistinct marks
of the joints on the posterior margin | <i>Mesectrephe</i> s, Mjob. |
| C. Antennae with a club consisting only
of a long uniform joint | <i>Monectrephe</i> s, Mjob. |

(6) I have not seen it in the original publication, having to thank Dr. Mjoberg for a reprint, in which the pages are 1-15; if these are not the correct pages it will be necessary to alter those given in my notes.

But the typical species of *Ectrephes* is certainly *formicarum*, Pasc., described as having "*antennae triarticulatae; articulo . . . tertio elongato, compresso, apice oblique truncato.*" *Anapestus kreusleri*, King (of which there are co-types before me), given as a synonym of *E. formicarum*, was also described as having three-jointed antennae, with the third joint "*elongato oblique truncato,*" and so figured. The position assigned to *Ectrephes* in the key cannot be due to a printer's error, as *E. clavatus*, Mjob., is figured as having a five-jointed club. I consider it necessary that, before some of his genera are recognized, they should be formally diagnosed. Of the genera in the key:—

Ectrephes. The character given at A is wrong; the species evidently intended for A was *E. pascoei*, Westw. (with which *E. clavatus*, Mjob., should certainly be associated if a new genus should be proposed for it); *pascoei* and *formicarum* by some curious error were evidently reversely identified.

Mesectrephes. Proposed for *E. kingii*, Westw. I think it is a good genus, but that it should be formally diagnosed (apparently it was unknown to Mjoberg, except from descriptions and figures).

Monectrephes. Being founded upon the typical species of *Ectrephes* (there is nothing to show that this was known to Mjoberg) this name becomes an absolute synonym.

Enasiba tristis, Oll. Dr. Mjoberg's surmise (p. 5) as to the antennae of this species being really composed of ten joints is correct; I have examined the type.

Ptinus amoenus, Mjob. (p. 8, fig. 1). A beautiful little species allied to *adepts*, but abundantly distinct; Dr. Mjoberg took one specimen at Mount Tambourine, and I took two there.

Ptinus australicus, Mjob. (p. 9, fig. 2). This is a synonym of *P. albomaculatus*, Macl.; it was described as from Kimberley, in N.-W. Australia. There are specimens in the South Australian Museum from N.-W. Australia (Fortescue River), and Queensland (Cairns and Townsville). It is a fine species, and the beautiful figure given agrees with many of our specimens.

Diplocotes foveicollis, Oll. (p. 11). The range of this species is extended to the Swan River.

Polyplacotes pilosus, Mjob. (p. 11, fig. 3). Kimberley. Although with the apparently nine-jointed antennae of *Polyplacotes*, the joints themselves are much like those of *Diplocotes*, or of *Decemphlocotes*. I have seen nothing at all close to it except the species here described under the name of *longipes*.

Paussoceros (p. 13); *antennalis*, Mjob. (p. 13, fig. 4). Derby. A very distinct species, but the generic distinction (as also that of *Leaptinus*) from *Paussoptinus* is purely an arithmetical one. I have seen nothing close to it, but am here describing a much smaller species, taken in numbers from an ant's nest.

Ectrephes clavatus, Mjob. (p. 14, fig. 5). Swan River. Structurally close to *pascoei*, but evidently different by the much larger prothoracic fovea, and the more conspicuously-clothed elytra. Specimens (6) of *pascoei* before me (including two of the original specimens taken by the late Mr. F. du Boulay) vary considerably in size, and in the intensity of prothoracic striae, but they all differ from the figure of *clavatus* in the particulars noted.

Decemplocotes brevipennis, Pic (*Paussoptinus*) (p. 6, fig. 6). Professor Michaelsen sent to Dr. Mjoberg a figure taken from the type of this species, and the figure makes it certain that the species should never have been referred to *Paussoptinus*, but that it is a *Diplocotes* (or a *Decemplocotes*, if the latter genus is to be allowed to stand). It is also the species I named *Diplocotes decemarticulatus*; Pic's name has priority.

The following is a list (with synonymy) of the Australian *Ptinidae* (excluding the *Anobiides*) hitherto recorded from Australia:—

DIPHOBI A FAMILIARIS, Oll.

Diplocotes niger, v. d. Poll.

DIPLOCOTES ARMICOLLIS, Lea.

BREVIPENNIS, Pic (*Paussoptinus*, Pic; *Decemplocotes*, Mjob.).

decemarticulatus, Lea.

FOVEICOLLIS, Oll.

HOWITTANUS, Westw.

STRIGICOLLIS, Lea (*Decemplocotes*, Mjob.).

ECTREPHES FORMICARUM, Pasc.

Anapestus kreusleri, King.

KINGII, Westw. (*Mesectrephes*, Mjob.).

PASCOEI, Westw. (*Monectrephes*, Mjob., in error).

CLAVATUS, Mjob.

ENASIBA TRISTIS, Oll.

GIBBIUM SCOTIAS, Fabr.

HEXAPLOCOTES SULCIFRONS, Lea.

MEZIUM AFFINE, Boield.

NIPTUS HOLOLEUCUS, Fald.

PAUSSOCEROS ANTENNALIS, Mjob.

PAUSSOPTINUS DOLICHOGNATHUS, Lea (*Leaptinus*, Mjob.).

LATICORNIS, Lea.

PLOCOTES NIGROPICEUS, Pic.
 POLYPLOCOTES CASTANEUS, Lea.
 LONGICOLLIS, Westw.
 NITIDUS, Westw.
 OVIPENNIS, Lea.
 PILOSUS, Mjob.

PTINUS ADEPS, Oll.
 ALBOHUMERALIS, Lea.
 ALBOMACULATUS, Macl.
 australicus, Mjob.
 AMOENUS, Mjob.
 ANCHORALIS, Lea.
 ATTRITUS, Oll.
 CUPREONIGER, Lea.
 EGENUS, Oll.
 EMINENS, Oll.
 EXULANS, Er.
 FUR, Linn.
 GLORIOSUS, Lea.
 IMULUS, Oll.
 LONGUS, Oll.
 MEDIOTGLABER, Lea.
 MICROSCOPICUS, Lea.
 NIVEONOTATUS, Lea.
 TECTUS, Boield.
 pilosus, White.

TRIGONOGENIUS GLOBULUS, Sol.

To these I have now to add several others, and note additional localities for the following species:—

PTINUS ALBOHUMERALIS, Lea. Mittagong.
 P. ATTRITUS, Oll. Morgan, Adelaide, Port Lincoln.
 P. EGENUS, Oll. Dividing Range, Victorian Alps.
 P. EMINENS, Oll. Reared from *Callipappus*, sp., in abundance in Western Australia.
 P. EXULANS, Er. Victoria, South Australia.
 ECTREPHES KINGII, Westw. Mullewa (from nest of *Iridomyrmex*, sp.).
 PAUSSOPTINUS LATICORNIS, Lea. Mindarie, Port Lincoln, Murray Bridge, and Murat Bay (from nests of two species of *Iridomyrmex*).
 POLYPLOCOTES LONGICOLLIS, Westw. Cue (from nest of *Iridomyrmex*, sp.).

PTINUS LEUCOMELAS, n. sp.

Black. Clothed with long, straggling, blackish, erect hairs; under-surface with dense, greyish pubescence, becoming

denser and paler on sides of sterna and on legs; upper-surface with snowy clothing in spots.

Head with dense punctures. *Antennae* long and rather thin, eleventh joint about one-third longer than tenth. *Prothorax* about as long as wide, sides gently incurved near apex and again near base; with small flat granules interspersed with punctures. *Elytra* about twice the width of prothorax, shoulders gently rounded, sides parallel to near apex; with regular rows of moderately-large, sharply-defined punctures, close together in the rows, and with a short row on each side of the scutellum; interstices each with a row of minute punctures. Length, $2\frac{1}{2}$ mm.

Hab.—Queensland: Kuranda (F. P. Dodd). Type, I. 6701.

Allied to *adepts*, but somewhat narrower, suture not clothed on apical slope, and prothoracic markings very different. The snowy clothing of the upper-surface is as follows:—A small spot on each side of the head, a vitta on each side of the prothorax (the two narrowly connected at the base), the scutellum, on each elytron a spot on the fifth interstice near the shoulders, one common to the third and fourth interstices at about one-third from the apex, and the tip.

A specimen from Northern Queensland (Blackburn's collection) probably belongs to this species. It has spots as on the type, but in addition near the apical third has spots on the sixth-eighth interstices, so that there it appears to have an interrupted fascia rather than spots.

PTINUS CAERULEIPENNIS, n. sp.

Black: elytra deep blue. Clothed with long, straggling, erect, blackish hairs: under-surface, most of legs, scutellum, and a spot near each eye, with dense greyish or whitish pubescence.

Head with dense and rather small punctures. *Antennae* long and thin, eleventh joint more than once and one-half the length of tenth. *Prothorax* about as long as wide, sides near base rather strongly incurved; across base with a row of distinct punctures, across apex more and larger ones, the intervening space impunctate. *Elytra* with outlines and punctures as described in preceding species. Length, 3 mm.

Hab.—Queensland: Cairns district (F. P. Dodd and A. M. Lea). Type, I. 6699.

Structurally close to *niveonotatus*, but slightly larger; elytra with more conspicuous punctures, and their colour and clothing very different. On both specimens there is some greyish clothing near the suture, which looks white from

some directions, but when viewed directly from behind appears quite as black as the rest of the elytral clothing.

The two species here described, and *amoenus*, Mjob., all belong to

“a. Appendages black or almost so,”

of my previous table ⁽⁷⁾ and with the species of *a* may now be tabled:—

* Elytra more or less bluish.

† Elytra with conspicuous snowy markings ... *albomaculatus*

†† Elytra without such ... *caeruleipennis*

** Elytra not bluish.

b. Elytra with pale clothing on apical portion of suture ... *adepts*

bb. Elytra without pale clothing there.

c. Each elytron with a single spot of snowy scales ... *niveonotatus*

cc. Each with more than a single spot of snowy scales.

¶ Third interstice with a snowy spot at basal third ... *amoenus*

¶¶ Without a snowy spot there ... *leucomelas*

MEZIUM SULCATUM, Fabr.

Mr. Champion identified some specimens from Western Australia that I sent to him as belonging to this species, which occurs also in South Australia and New South Wales, but does not appear to have been previously recorded from Australia.

MEZIUM AFFINE, Boield.

Numerous specimens from South Australia agree well with British specimens of this species.

MEZIUM, sp.

A third species (no doubt introduced) also occurs in Australia. In size it is intermediate between the two preceding species, and differs from them also in having numerous stout setae scattered over the elytra from base to apex.

Hab.—South Australia: Coultas; Western Australia: Geraldton, Swan River.

DIPLOCOTES FOVEICOLLIS, Oll.

Two specimens taken by Messrs. B. A. Feuerherdt and F. Secker, in ants' nests at Lucindale, differ from specimens agreeing with the type of this species in being larger ($2\frac{3}{4}$ -3 mm.), with the joints of the antennae stouter, and the elytra practically glabrous.

(7) Proc. Linn. Soc. N.S. Wales, 1911, pp. 473, 474.

DIPLOCOTES STRIGICOLLIS, Lea.

On the male of this species the subapical joint of the antennae is considerably larger than on the female, and the spine, on each side of the prothorax, is rather more acute. The type was recorded from "South Australia," but it has since been taken from nests of a small black *Iridomyrmex* at Adelaide and Port Lincoln.

HEXAPLOCOTES SULCIFRONS, Lea.

The late Mr. F. du Boulay took several specimens of this species in ants' nests at Beverley; they are all smaller than the type, with the prothorax and elytra deep black, and the clothing of the elytra somewhat sparser and more seriate in arrangement. The type was also from Western Australia, although recorded by an oversight by Dr. Mjöberg as Tasmanian. As a matter of fact I have never seen any myrmecophilous species of *Ptinidae* in Tasmania.

POLYPLOCOTES PERFORATUS, n. sp.

Pl. xii., figs. 7, 8.

Black; some body-parts and most of the appendages obscurely diluted with red. Metasternum, a vitta towards each side of abdomen from the base to the fourth segment, and the intercoxal process of prosternum and of mesosternum, with very dense, whitish pubescence, somewhat similar (but more golden) pubescence at base of head; prothorax and elytra glabrous.

Head with dense and irregular punctures; bisinuate in front to receive bases of antennae, in front of antennae narrowly elevated, with below the elevation a conspicuous perforation, face flat with a narrow median line; clypeus flat, subelliptic, on the same plane as the face and mandibles; labrum very small, on each side a wide groove for the reception of the base of an antenna. Eyes narrow and finely faceted. Antennae stout, most of the joints finely granulate, first thick and somewhat curved, second with base curved under apex of first, third-seventh subequal in length but slightly dilating in width, eighth longest of all and somewhat flattened, ninth much shorter than eighth, slightly curved, its tip incurved to middle and slightly hollow. *Prothorax* about as long as wide, sides gently increasing in width from apex to base, and nowhere foveate or incurved; densely, finely, and obliquely punctate-striate, but about base with punctures only, with an irregular and not very long semi-double median line. *Elytra* at base slightly wider than prothorax, sides gently dilated to about the middle and

then narrowed to apex; at base with about sixteen deep and conspicuous foveae, bounded by acute carinae at the sides, but open posteriorly, the carinae near the suture scarcely continued beyond the fovea, but towards the sides continued for some distance; disc almost impunctate and with feeble traces of striation. *Femora* stout, grooved for reception of tibiae. Length, $3-3\frac{1}{4}$ mm.

Hab.—Western Australia: Beverley, two specimens from nests of ants (F. du Boulay). Type, I. 6725.

Structurally very different to any previously-described species of the genus. The perforation (fig. 8 A) through the head is quite conspicuous from each side, but it is necessary to have the antennae out of the way; the complete absence of a prothoracic fovea or sub-basal impression is unusual. From one direction the seventh joint of antennae appears to be slightly narrower than the sixth, but from another it is seen to be decidedly wider, the eighth from some directions appears to be the narrowest, and the appearance of the ninth alters with almost every point of view.

POLYPLOCOTES SCABRICOLLIS, n. sp.

Black; elytra, abdomen, and parts of legs more or less castaneous-brown. Intercoxal processes of under-surface and part of face with dense, whitish pubescence; prothorax and elytra with a few very short, upright setae.

Head with dense punctures partially concealed by clothing. Antennae thick, first joint stout and curved, second with its base curved under apex of first, third about as long as wide, fourth-seventh from one direction apparently moniliform, but really produced to one side, eighth and ninth somewhat flattened, wider, and paler than the others, eighth large with sides rounded, ninth short, its tip truncated and slightly hollow. *Prothorax* slightly longer than wide, sides uneven near base, and slightly wider at base than at apex; densely granulate or granulate-punctate; near base with a transverse impression traversed by deep striae, each side with a fovea, but these invisible from above. *Elytra* subelliptic-ovate, greatest width scarcely one-fourth more than that of prothorax, base narrowly upraised and with a row of small deep foveae; with regular rows of rather small but sharply-defined punctures. *Abdomen* with dense, sub-asperate punctures. *Legs* rather short and stout. Length, $2\frac{1}{4}$ mm.

Hab.—Northern Territory: Stapleton, taken from an ant's nest in January (G. F. Hill). Type, in Department of Agriculture, Darwin.

The general outlines and the antennae are fairly close to those of *longicollis*, but the prothorax is more densely and strongly punctured; the highest part on *longicollis* at most has a few very small punctures, but on the present species they are quite dense and strong there; the elytra are also much more conspicuously seriate-punctate on the present species. The sub-basal transverse impression of the pronotum is not deep in itself, but being traversed by deep striae (whilst the adjacent parts are punctate or granulate) is rather conspicuous. At first sight the upper-surface appears to be quite glabrous, and it is only on close examination and from certain directions that a few small setae become visible.

POLYPLOCOTES LONGIPES, n. sp.

Castaneous; in places infuscated, elytra and abdomen paler than other parts. Metasternum, extreme base of abdomen, intercoxal processes of prosternum and of metasternum, and face near antennae, with dense whitish pubescence: upper-surface glabrous, except for a few indistinct setae at the sides.

Head with very irregular punctures; in front strongly bisinuate for reception of antennae. Eyes small but prominent. Antennae rather long, first joint thick and curved, second with its base curved under apex of first, third distinctly longer than second or fourth, fourth-seventh rather thin and subequal, eighth and ninth dilated and forming a club, eighth slightly longer than sixth and seventh combined, ninth slightly longer than seventh, and much shorter than eighth, its tip rounded and with sensitized pubescence. *Prothorax* slightly longer than wide, base and apex subequal, sides lightly incurved near base; disc finely striated in middle, but the striae becoming conspicuously deeper towards sides and base, with a few scattered punctures; with a transverse sub-basal impression, slightly deepened (but not foveate) at its middle. *Elytra* conspicuously inflated and strongly convex, at their widest fully twice the width of prothorax; with a series of very small but rather sharply-defined punctures, about apex somewhat irregular, and mixed with minute scratches. *Legs* long and thin; femora shallowly grooved for reception of tibiae, these finely serrated or denticulate externally. Length, $3\frac{1}{2}$ mm.

Hab.—North-western Australia: Derby, from a nest of *Cremastogaster*, sp. (W. D. Dodd). Type (unique), I. 6711.

In general appearance this insect more closely resembles the species of *Diplocotes* than of *Polyplocotes*, but as the antennae are apparently nine-jointed and, as a species, it is close to *pilosus*, it has been referred to *Polyplocotes*; it differs

from the description and figure of *pilosus* in having the apparent second joint of antennae distinctly shorter than the third, the elytra do not have "four deep impressions" on each side of the base, the impressions there being minute punctures only, and they are entirely glabrous except for some sparse pubescence on the margins and tips. From the description of *castaneus* it differs in being considerably larger, and with very different antennae.

PAUSSOCEROS CREMASTOGASTRI, n. sp.

Castaneous; parts of appendages lightly infuscated. Parts of sterna and base of abdomen with dense pubescence.

Head with dense, irregular punctures; bisinuate in front for base of antennae. Eyes pointed. Antennae not very long, first joint stout and curved, second short, its base curved under apex of first, all the rest closely applied together and strongly inflated, third to seventh each more than twice as wide as long, and with the middle portion more convex than the sides, eighth with its inner side about as long as that of the seventh, but the outer side almost twice as long, ninth about as long as seventh but somewhat narrower, its sides rounded and tip truncated. *Prothorax* slightly longer than wide, base and apex subequal; front portion of disc with dense punctures and fine striae, the striae becoming coarser on each side and converging to a sub-basal fovea (but lateral striae and foveae concealed from above), near base with a strong transverse impression traversed by numerous striae. *Elytra* subelliptic-ovate, greatest width scarcely one-fourth more than that of prothorax; base truncate, narrowly raised, and with a row of larger punctures than elsewhere; with series of not very large but sharply-defined punctures, close together in the rows. *Abdomen* with numerous (but not crowded) sharply-defined punctures. *Legs* not very long; femora grooved for reception of tibiae. Length, $1\frac{1}{2}$ - $1\frac{3}{4}$ mm.

Hab.—North-western Australia: Derby, nine specimens from nests of *Cremastogaster*, sp. (W. D. Dodd). Type, I. 6714.

Much smaller than *antennalis*, and with the apparent ninth joint of antennae not almost buried in the eighth. There are also many other differences from the description of that species. Some specimens (apparently females) have the abdomen much more convex than others.

DIPHOBIA MYRMECOPHILA, n. sp.

Dark castaneous-brown, appendages somewhat paler. Prothorax with a few short, scattered, erect setae, and a

few near base of elytra; metasternum, extreme base of abdomen, and intercoxal processes of prosternum and of mesosternum with dense, whitish pubescence; outer apex of each femur with a small patch of greyish clothing.

Head granulate, and in places deeply strigose. *Antennae* moderately long, first joint stout and somewhat curved, second slightly longer than third, the following ones moniliform, but eleventh about once and one-half the length of tenth, its tip with sensitized pubescence. *Prothorax* slightly longer than wide, sides gently rounded, but near base incurved; convex frontal portion with comparatively small punctures and oblique striae, but towards and on the sides with deep striae; with a narrow and rather deep median line, near base with a rather strong transverse impression, behind and at the sides of which the striae are rather deep. *Elytra* elliptic-ovate, at their widest about twice the width of prothorax; with regular rows of fairly large, suboblong, sharply-defined punctures, larger at the extreme base than elsewhere, interstices impunctate. *Abdomen* with not very dense, but almost equally-spaced and moderately large, sharply-defined punctures. *Legs* rather short. Length, $2\text{--}2\frac{1}{4}$ mm.

Hab.—Northern Territory: Darwin, in nests of *Oecophylla smaragdina*, and of *Rhytidoponera hilli* (G. F. Hill). Type, I. 6717.

About the size of *familiaris*, but prothorax shorter, the transverse sub-basal impression not quite the same (the depression where it is joined by the median line is deeper than elsewhere, but not foveate), elytra wider and with rows of strongly-impressed punctures. There are also many other slight differences.

DIPHOBIA FOVEATA, n. sp.

Colour and clothing as described in the preceding species, except that there is no special pubescence on the femora.

Head with dense punctures, and in places strongly striate. *Antennae* somewhat longer, but otherwise much as in the preceding species. *Prothorax* about as long as wide, sides feebly rounded and lightly incurved near base; densely and rather strongly striate throughout, but more deeply on sides, with some punctures in the striae; near base with a strong transverse impression conspicuously foveate in its middle, a smaller marginal fovea on each side, and below this (but invisible from above) another. *Elytra* much as in the preceding species, except that the punctures are much more numerous and somewhat smaller, although quite sharply defined. *Legs* rather long. Length, $2\frac{1}{4}$ mm.

Hab.—Queensland: Townsville (F. P. Dodd). Type, I. 6718.

In general appearance close to the preceding species, and with very similar elytra, except that the seriate punctures are much closer together, but antennae slightly and legs decidedly longer, striation of the prothorax denser, more deeply impressed, and the sub-basal excavation considerably larger and decidedly foveate in character, the abdominal punctures are also smaller, and the femora are without special clothing. The eyes in both are prominent and pointed.

DIPHOBIA METALLICA, n. sp.

Black; elytra dark metallic-blue or green. Clothed with rather short and erect or suberect greyish setae, not very dense but quite conspicuous.

Head with dense punctures and in places deeply striate. Eyes rather pointed. Antennae rather long, first joint stout and somewhat curved, second slightly shorter than third, the following one moniliform, but eleventh about once and one-half the length of tenth, and with its tip obliquely truncated. *Prothorax* slightly longer than wide, sides gently rounded, near base gently incurved, near base with a conspicuous transverse impression and (concealed from above) with a fairly large fovea on each side; with dense, sharply-defined striae, all (except those on sides) converging to the middle of the sub-basal depression, but the depression not foveate there. *Elytra* strongly convex, elliptic-ovate, at widest about twice the width of prothorax; with semi-regular rows of distinct but not very large punctures, not very close together. *Under-surface* with fairly numerous, sharply-defined punctures, larger and denser on metasternum than elsewhere. *Legs* moderately long. Length, 2-2½ mm.

Hab.—Queensland: Stewart River, nine specimens from nests of *Iridomyrmex*, either a variety of *detectus*, or close to that species (W. D. Dodd). Type, I. 6719.

Readily distinguished from all other known species of the genus by its metallic-blue (or green) elytra, with distinct clothing. On two of the specimens the appendages and abdomen are vaguely diluted with red, but on all the others they are deep black. The elytral setae are in quite regular lines, as may be seen on examining them from the rear; there is no special clothing on the sterna, as on so many myrmecophilous species of the family.

DIPHOBIA INTRICATA, n. sp.

Dark blackish-brown, appendages somewhat paler. Prothorax and base of elytra with a few very short, erect, dark setae.

Head with dense punctures, and in places punctate-striate. Eyes acutely ridged. Antennae stout, first joint

thick and somewhat curved, second subtriangular, third lightly, the following ones more noticeably transverse and somewhat flattened, eleventh somewhat longer than tenth, its tip truncated. *Prothorax* about as wide as long, sides notched near base; near base with a conspicuous transverse impression foveate in the middle, with dense subreticulate striation, converging to the sub-basal fovea, but on sides with ordinary striae converging to various depressions. *Elytra* subelliptic-ovate, greatest width less than twice that of prothorax, base truncate and narrowly upturned; with regular rows of distinct and sharply-defined but not very large punctures. *Under-surface* with dense and sharply-defined, but rather small punctures, larger on metasternum than elsewhere. *Legs* rather short and stout. Length, $2\frac{1}{4}$ - $2\frac{1}{2}$ mm.

Hab.—Queensland: Stewart River, one specimen from a nest of the same host-ant as that of the preceding species, and one from that of a small dark-brown species of *Cremastogaster* (W. D. Dodd). Type, I. 6720.

Very distinct from all other known species of the genus by its antennae; the joints of these are distinctly eleven in number, but most of them are somewhat flattened, the eleventh being conspicuously wider than thick; from some directions, however, most of them appear to be moniliform. The sides of the prothorax appear to be notched near the base, rather than gently incurved, and the striae of the upper-surface are not regular ones, but appear to be composed of elongate punctures with bounding walls drawn together in places, so as to be somewhat netlike in character; but this appearance is much less evident from some directions than from others. As on the preceding species, there is no special clothing of the sterna.

TENEBRIONIDAE.

PLATYCILIBE BREVIS, Cart.

This species occurs in Tasmania as well as on the mainland; on several specimens (including one from the Blue Mountains sent by Mr. Carter to the late Rev. T. Blackburn) each lateral margin of the pronotum is supplied with a slight projection at the basal fourth, and another and less distinct one at the apical third, and there is sometimes also a still less distinct one nearer the apex; these appear to be confined to the males.

MESOTRETIS INCONSTANS, n. sp.

Pale reddish-castaneous, appendages somewhat paler.

Head with dense and not very large but sharply-defined punctures; with a shallow depression close to each antennary

ridge. Antennae rather thin, passing base of prothorax, apical joints gradually dilated and forming a loose club. *Prothorax* about once and one-half as wide as long, sides gently rounded, lateral and basal margins very narrow; punctures somewhat sparser but otherwise much as on head. *Elytra* slightly wider than prothorax, sides feebly dilated to near the middle; without striae except marginal and postero-sutural ones; punctures slightly larger and sparser than on head. Length, $3\frac{3}{4}$ -4 mm.

Hab.—Western Australia: Geraldton (Blackburn's collection, from E. Meyrick and A. M. Lea). Type, I. 6619.

The type is the specimen commented upon ⁽⁹⁾ by the late Rev. T. Blackburn as probably a variety of *ferruginea*; but it differs from the real *ferruginea* (of which there are specimens before me identified by Mr. H. J. Carter, and agreeing with the original description) in having the head immaculate, the antennae somewhat longer, punctures of both surfaces slightly larger, sparser, and much more sharply defined, hind angles of prothorax right-angles instead of slightly obtuse ones, elytra with very fine pubescence and not at all shagreened (the elytra of *ferruginea* are very finely shagreened, although this character was not noted in the original description). At first glance the elytra appear to be glabrous, but from some directions their sides are seen to be clothed with sparse and very short pubescence. The club of the antennae should probably be regarded as three-jointed, but as the eighth joint is intermediate in size between the seventh and ninth, it might almost fairly be regarded as four-jointed. The specimen taken by myself differs from the type in being almost entirely blackish, except for the appendages, which are castaneous.

PYTHIDAE.

NOTOSALPINGUS VARIIPENNIS, Lea.

A specimen of this species was in the Blackburn collection from the Dividing Range in Victoria (it is now first recorded from the mainland).

NOTOSALPINGUS VARIABILIS, n. sp.

Brassy-black or brassy-brown, some parts castaneous; elytra with more or less conspicuous markings, antennae (club lightly infuscated) and legs flavous.

Head almost flat between eyes, which are very prominent, across them about as wide as the antennae are long, semi-circularly depressed in front; with dense and sharply-defined but rather small punctures. Antennae with second joint not

(9) *Ante*, 1887, p. 273.

much larger than third, third to eighth subequal, ninth to eleventh forming a rather small club, prothorax apparently slightly longer than wide, sides moderately rounded and distinctly narrower at base than elsewhere; punctures not quite as dense as on head, but slightly larger, becoming somewhat larger on sides. *Elytra* oblong-elliptic, shoulders rather strongly rounded, greatest width scarcely more than that of prothorax; striate-punctate, striae well defined but becoming feeble posteriorly, punctures rather large, but becoming smaller posteriorly. *Legs* rather short and stout; front coxae touching. Length, $1\frac{1}{4}$ - $1\frac{2}{3}$ mm.

Hab.—Lord Howe Island. Type, I. 6144.

A very small species, variable in size and markings; it is smaller and darker than *variipennis*, prothorax larger in proportion, shining and with punctures more sharply defined; the head, however, is subopaque. The upper-surface is glabrous and the under-surface almost so. The head is usually of a dull red, occasionally with a slight metallic gloss, most of the prothorax is black or blackish, with the apical margin and a narrow median line castaneous, but the two colours are not sharply defined; on the *elytra* there is a (rather obscurely flavous) fascia near the base and not extending to the margins, and the apex is rather widely obscurely flavous; but the markings are subject to considerable reduction in size and distinctness, the apical portion on some specimens being less than half the size that is on others and much less defined; the sub-basal fascia may extend to the base itself, or may be reduced to two isolated spots (sometimes just traceable); the abdomen is seldom entirely black, but the paler apical portions are seldom less than piceous-brown. Fifteen specimens were obtained.

NOTOSALPINGUS METALLICUS, n. sp.

Brassy-black, under-surface and legs not much paler; basal half of antennae obscurely reddish. Length, $1\frac{1}{4}$ - $1\frac{1}{2}$ mm.

Hab.—Lord Howe Island. Type, I. 6145.

Structurally very close to the preceding species, of which, perhaps, it should have been regarded as a variety, but in addition to its uniformly dark colour it differs in being slightly narrower, and with the head somewhat more convex between the eyes. Five specimens were obtained on Mount Gower, including four from the summit.

NOTOSALPINGUS MONTANUS, n. sp.

Somewhat castaneous, in places darker; *elytra* obscurely flavous or testaceous, with darker markings, legs flavous, femora infuscated towards base.

Head and *prothorax* with outlines and punctures much as on *variabilis*. *Elytra* moderately long, parallel-sided to near apex, shoulders almost square and the width of widest part of prothorax; with rows of fairly large punctures, in distinct striae, both punctures and striae almost vanishing near apex. Length, 2-2 $\frac{1}{4}$ mm.

Hab.—Lord Howe Island. Type, I. 6152.

Structurally fairly close to *variipennis*, but prothorax less opaque and without a median line. From *variabilis* it differs in being larger, elytra more parallel-sided, shoulders less rounded off, and markings different. The head and prothorax are obscurely castaneous, with the latter obscurely infuscated on each side; the darker parts of the elytra are the base (more narrowly dark about the shoulders than suture), the sides (more noticeably about the middle than elsewhere), and the suture, the sutural infuscation is mostly rather narrow, but from about the middle to near the apex is conspicuously dilated; the antennae are not much darker than the legs, and their apical infuscation is but slight. Over the whole of the upper-surface (which is glabrous) there is a vague metallic gloss. Three specimens were taken on the summit of Mount Gower.

RHINOSIMUS CORTICALIS, Oll.

A specimen from Cairns differs from a Richmond River specimen that agreed with the type, by the rostrum (as seen from above) being very considerably longer and noticeably dilated towards the apex; seen from the side it also appears to be much thinner (only about half the thickness) and with the length of the eye decidedly less than the length of the rostrum in advance of the antennae; in the Richmond River specimen the length in front of the antennae is about equal to the length of an eye. These differences are possibly sexual.

NEOSALPINGUS POLITUS, Macl. (*Corticaria*, in error).

Although referred to the *Lathridiidae* this species is a *Neosalpingus*, and it occurs from the Richmond River to Cairns. It has a few setae on the elytra, but they are distinct only from the sides.

NEOSALPINGUS SERRATICOLLIS, n. sp.

Head and prothorax black with a brassy-green gloss; elytra almost black, under-surface and appendages (club excepted) of a dingy brown.

Head wide, with two shallow depressions in front; with rather dense and small but sharply-defined punctures. Eyes moderately large and basal. Antennae with an abrupt three-jointed club. *Prothorax* about twice as wide as long, evenly

convex (each side with fine conspicuous unisetose denticulations; with dense punctures, slightly larger than on head, and becoming more crowded and larger on sides. *Elytra* at base slightly wider than prothorax, sides gently dilated to beyond the middle, and then widely rounded to apex; with fairly dense punctures, distinctly smaller than on prothorax, becoming very small posteriorly, and nowhere seriate in arrangement. Length, $1\frac{3}{4}$ - $2\frac{1}{4}$ mm.

Hab.—Northern Queensland (Blackburn's collection), Hamilton (Queensland Museum); New South Wales: Richmond River (A. M. Lea), Nepean River (A. J. Coates); South Australia: Mount Lofty (S. H. Curnow). Type, I. 6147.

Allied to *dentaticollis*, but wider, prothorax evenly convex from side to side (instead of flat or depressed in middle), punctures somewhat smaller, not quite so dense, but rather more sharply defined, elytra wider at base, and punctures nowhere seriatly arranged. The upper-surface is entirely glabrous. The specimens from Mount Lofty differ from the others in being somewhat narrower, with elytral punctures stronger, and the prothoracic ones conspicuously stronger, especially at the sides.

NEOSALPINGUS OBSCURIPENNIS, n. sp.

Head and prothorax brassy, elytra and under-surface piceous-brown, appendages (club excepted) paler. Upper-surface with a few short, erect hairs.

Head wide and flat, with two vague longitudinal depressions in front, muzzle almost parallel-sided, somewhat less than the width behind the eyes; with rather dense and sharply-defined but not very large punctures. Eyes moderately distant from base. Antennae moderately long, with an abrupt three-jointed club. *Prothorax* lightly transverse, but median length greater than basal width, greatest width near apex, apex itself distinctly wider than base; with dense and fairly large punctures, becoming crowded on sides; with a shallow longitudinal impression and two small sub-basal ones, the three usually obscurely connected together; each side with four or five unisetose denticulations. *Elytra* at base slightly wider than widest part of prothorax, sides feebly dilated to about the middle, and then as feebly diminishing in width to near apex; with regular rows of not very large but sharply-defined punctures, becoming much smaller posteriorly. Length, $2\frac{1}{2}$ - $3\frac{1}{4}$ mm.

Hab.—New South Wales: Jenolan; Tasmania: Mount Wellington, Hobart (A. M. Lea); South Australia: Lucindale (B. A. Feuerherdt). Type, I. 6150.

At first glance fairly close to *corticalis*, but elytra paler and sides of prothorax denticulate; from *dentaticollis*, which has very similar elytra, it is distinguished by the more metallic head and prothorax, the latter with a conspicuous median impression bounded on each side near base by a subtubercular elevation; these, although not much elevated above the general surface, are usually shining and impunctate or almost so, so that they are rather distinct. The general appearance is that of *Lissodema hybridum*, but the prothorax is at once distinctive. The hairs on the upper-surface are quite distinct from the sides. On some specimens the rows of elytral punctures appear to be in feeble striae towards the suture. The specimen from Lucindale has smaller cephalic punctures than the others; two specimens from Mount Wellington are probably immature, they have the head and prothorax reddish-castaneous, with a vague metallic gloss, and the other parts (even the club is but lightly infuscated) paler than on typical specimens.

NEOSALPINGUS TRIFOVEICOLLIS, n. sp.

Head and prothorax brassy-black, elytra and under-surface blackish with a vague metallic gloss, antennae (club excepted) and tibiae and tarsi of a dingy testaceous.

Head with crowded and moderately small punctures, with a shallow depression on each side in front. Eyes small, prominent, and rather distant from base. Antennae rather short, with an abrupt three-jointed club. *Prothorax* with greatest width (slightly in advance of the middle) about equal to median length, base much narrower than apex, sides distinctly increasing in width from base to middle, then each with two unisetose denticulations, with three small foveae, the median one rather larger and deeper than the others; punctures slightly larger but otherwise much as on head. *Elytra* distinctly wider than prothorax, sides gently dilated to beyond the middle, and then widely rounded to apex; with rows of punctures in light striae, the punctures fairly large about base, becoming much smaller posteriorly. Length, $1\frac{3}{4}$ -2 mm.

Hab.—Victoria: Dividing Range (Blackburn's collection); Tasmania: Stonor, Swansea (A. M. Lea). Type, I. 6151.

Differs from *dentaticollis* and the preceding species by the absence of denticulations from the basal half of the prothorax; it is smaller than *corticalis*, with somewhat smaller punctures, and the three prothoracic impressions usually disconnected. The upper-surface at first appears to be

difficult to deal with, partly by their close relationship, but also on account of mechanical troubles.

SCRAPTIA LATICOLLIS, Champ.

The pronotum of this species was described as having "distinct basal foveae and a short median channel at the base." I have taken numerous specimens in Tasmania that agree with this, others in which only the median impression is distinct, and still others without any distinct impression, and believe the intensity of the impressions to be due to a certain extent to irregular contraction in drying; on one specimen this is clearly the case, as the median channel is lop-sided, deep, and wide, and extends from the base almost to the apex; a specimen from Forest Reefs and another from the Swan River have the prothorax strongly ridged along middle and a wide excavation on each side, but I am convinced that both the ridge and the excavations are due to irregular contraction. The species also occurs on the mainland from the Swan River to Sydney, those from the mainland as a rule being somewhat smaller and paler than Tasmanian specimens (a common variation as between Australian and Tasmanian insects).

Some specimens from Adelaide and Dalby possibly also belong to the species, but have the antennae somewhat longer (although the second joint is slightly shorter than the third, as on the typical form) and punctures of upper-surface decidedly coarser.

SCRAPTIA AUSTRALIS, Champ.

Specimens of this species range in length from $1\frac{3}{4}$ to 3 mm., the average being about $2\frac{1}{2}$ mm. The species occurs in Victoria (Dividing Range) and New South Wales (Jenolan) as well as in Tasmania.

SCRAPTIA GYMNOTERNA, n. sp.

Of a rather dingy flavous; elytra with infusate markings about base, middle, and apex, or near apex. With rather dense yellowish pubescence, but sterna and hind coxae glabrous and highly polished.

Head with rather crowded punctures of moderate size, better defined, although not larger, on clypeus than elsewhere. Eyes very deeply emarginate (almost divided), almost touching in front in male, moderately separated in female. Antennae rather long and thin, second and third joints very short. *Prothorax* moderately convex, at base about twice as wide as the median length, sides obliquely decreasing in

width from base to apex; punctures much as on head. *Elytra* convex, the width of prothorax at base, almost parallel-sided to middle, and then strongly narrowed to apex; with crowded and fairly well-defined punctures and with remnants of striation about base. Spurs to hind *tibiae* subequal, the longest about half the length of the following joint. Length, $2\frac{1}{2}$ -3 mm.

Hab.—Queensland: Cairns district (E. Allen and A. M. Lea), Mount Tambourine (Lea). Type, I. 6119.

The general outlines more nearly approach those of *Orchesia* than is usual in the genus, but the body-parts are softer and the front coxae are not separated by an intercoxal process; the spurs to the hind *tibiae* are longer than is usual in the genus, but shorter than in *Orchesia*. The sexes may be readily distinguished by the eyes, those of the male are almost touching in front, but in the female they are separated fully the width of the notch in each eye; the antennae of the male are also stouter and somewhat longer than those of the female, and the front tarsi are somewhat wider. The third joint of the antennae is slightly smaller than the second, and on many specimens is so closely applied to the fourth that it appears to belong to it, so that at first the antennae seem to be but ten-jointed. The elytral markings are somewhat variable, but on most specimens consist of a narrowly-infusate space at base (on some specimens appearing as a fascia), a wide median fascia usually continued along suture till it joins in with a subapical fascia; the latter is sometimes continued quite to the apex; on many specimens the space between the median and subapical fasciae appears as a large pale spot on each elytron; the fasciae when present are always narrowly interrupted at the suture. One specimen (A) from Cairns has the median and subapical fasciae almost black and quite disconnected, and the basal infuscation slight; another (B) from Cairns has the elytra entirely flavous, but with the infusate markings vaguely traceable; one (C) from Northern Queensland (Blackburn's collection) has the elytral markings reduced to a vague infusate spot on each side of the middle, and a vague subapical spot. Two other specimens, from Mount Tambourine, agree with the specimens A and B.

SCRAPTIA ANGUSTA, n. sp.

Pale flavous: seven or eight apical joints of antennae rather lightly infuscated. With rather dense and pale (on some specimens almost golden) pubescence.

Head small and rather strongly convex; with rather large clearly-defined punctures. Eyes comparatively small, widely separated and semicircularly notched. Antennae rather long

and thin, second joint slightly larger than third, their combined length slightly more than that of fourth. *Prothorax* fully thrice as wide as the median length, sides gently rounded and feebly decreasing in width from base to apex; with dense punctures, smaller than on head, but in places feebly transversely confluent. *Elytra* the width of prothorax at base, almost parallel-sided throughout; punctures not quite as dense as on prothorax, but rather more distinct. Spurs to hind *tibiae* slightly unequal, about as long as second tarsal joint. Length, $2\frac{1}{4}$ - $2\frac{1}{2}$ mm.

Hab.—Tasmania (A. Simson's No. 3756): Lakes District (Blackburn's collection), Mount Wellington, Hobart, Huon River, Frankford (A. M. Lea); Victoria: Dividing Range (Blackburn). Type, I. 6124.

A very thin species with narrower elytra than any other species known to me, but the prothorax widely transverse; the head has decidedly coarser punctures than usual. There are numerous specimens under examination, but they appear to have no sexual differences in the head. On a few specimens the space adjacent to the scutellum is lightly infuscated; the under-surface is usually no darker than the upper, but on some specimens the abdomen, or the abdomen and metasternum, are rather deeply infuscated. The specimen from the Dividing Range is rather darker than the others, but its legs are entirely pale.

Var. *FASCIATA*, n. var.

Three specimens (from Hobart and Ulverstone) have the elytra infuscated, except for a pale and rather distinct submedian fascia; a fourth (from Mount Wellington) has the fascia less well defined, denoting an approach to the normal form.

SCRAPTIA TELEPHOROIDES, n. sp.

Blackish-brown; prothorax, palpi, and parts of legs flavous. Rather densely clothed with short, pale pubescence.

Head very short and transverse; with rather crowded, clearly-defined punctures, somewhat smaller in front than towards base. Eyes widely separated and semicircularly notched. Antennae moderately long, second joint slightly larger than third, their combined length slightly more than that of fourth. *Prothorax* about thrice as wide as the median length, basal half almost parallel-sided, then with front angles widely rounded off; with crowded subasperate punctures, slightly smaller than on head. *Elytra* a trifle wider than prothorax at base, sides very feebly dilated to beyond the middle; with crowded subasperate punctures about base, becoming smaller posteriorly. Length, $3\frac{1}{4}$ - $3\frac{1}{2}$ mm.

Hab.—Victoria: Dividing Range (Blackburn's collection); New South Wales: Forest Reefs (A. M. Lea). Type, I. 6120.

The muzzle is paler than the rest of the head, but the two shades of colour are not sharply contrasted; on the type the front legs and four hind tarsi are flavous, the four hind femora and tibiae being rather deeply infuscated; on the Forest Reefs specimen the legs are entirely pale, and the metasternum and abdomen are paler than the elytra. Both specimens on account of the flavous prothorax in strong contrast to the dark head and elytra are strikingly close in general appearance to several species of *Heteromastix* of the *Telephorides*; they are probably females. At first glance the third joint of antennae appears to be part of the fourth.

SCRAPTIA LUGUBRIS, n. sp.

♂. Dark piceous-brown. Densely clothed with very short pale pubescence.

Head with crowded and small but fairly well-defined punctures. Eyes fairly close together in front, rather deeply notched. Antennae long and rather thin, slightly passing elytra; second and third joints very small and subequal, their combined length less than that of fourth. *Prothorax* not twice as wide as the median length, basal half almost parallel-sided, then with sides strongly obliquely narrowed to apex; with densely-crowded punctures, slightly smaller than on head. *Elytra* slightly wider than prothorax at base, punctures much as on head. *Legs* long and thin; spurs to hind tibiae very unequal, the longer almost the length of the claw joint. Length (♂, ♀), $3\frac{1}{4}$ - $4\frac{1}{4}$ mm.

♀. Differs in being somewhat wider, eyes smaller and more widely separated, antennae shorter and thinner, and in the tarsi.

Hab.—South Australia (old collection); Western Australia: Beverley (A. M. Lea); Victoria: Sea Lake (J. C. Goudie, No. 562). Type, I. 6122.

The male differs from the male of *fumata* in having the eyes more widely separated (the distance between them is about equal to that between those of the female of *fumata*), and the elytra comparatively shorter and wider; the female differs from the female of *fumata* in being darker, more compact, and eyes rather more widely separated. The legs are paler than the body-parts, but even they have a very dark smoky appearance. On the specimen from Sea Lake there is a shallow but fairly distinct depression on each side of the pronotum, and the specimen from Beverley has three

vague depressions on the pronotum, but they are probably due to irregular contraction; the type is without any.

SCRAPTIA DECIPIENS, n. sp.

Dark piceous-brown; elytra and appendages not much paler than the other parts. Densely clothed with short, pale pubescence.

Head with small crowded punctures; with a short median line. Eyes large, close together in front, and deeply notched. Antennae long and rather thin, second joint slightly longer than third, their combined length about equal to that of fourth, combined length of the three slightly less than that of the fifth. *Prothorax* about once and one-half as wide as the median length, basal two-thirds almost parallel-sided, then strongly obliquely decreasing in width to apex; with crowded, subasperate punctures, somewhat coarser than on head. *Elytra* slightly wider than prothorax; with crowded subasperate punctures. *Legs* long, spurs to hind tibiae very unequal, the longer distinctly shorter than the second joint of tarsi. Length, $4\frac{1}{4}$ mm.

Hab.—South Australia: Karoonda to Peebinga (G. E. H. Wright). Type (unique), I. 6121.

In general appearance close to *fumata*, but somewhat darker, punctures distinctly larger and second to fifth joints of antennae differently proportioned, the third and fourth are so closely applied together that it is only on very close examination and from certain directions that they may be seen to be really two. Four apical joints of each antenna are missing from the type; it has three vague depressions on the pronotum.

PAROMARTEON.

In general appearance the typical species of this genus is structurally close to *Temnopalpus bicolor*, and like that species it has a strong general resemblance to many of the small *Telephorides* (e.g., *Heteromastix*). The only generic difference on the upper-surface that I can find is in the eyes, those of *Paromarteon* being larger, less prominent, and with smaller facets than in *Temnopalpus*.

PAROMARTEON MUTABILE, Blackb.

The type of this species appears to have the head entirely red, but I have seen no specimen (including two co-types) in which the head was not at least deeply infuscated towards the base, and it is usually of a shining black except about the muzzle; the prothorax is usually more flavous than reddish, and the elytra are frequently flavous (those of the type were described as testaceous). The species occurs in New South

Wales and Queensland, as well as in Victoria, and the specimens before me may be regarded as belonging to two common forms and several varieties.

Form 1 (typical). Elytra entirely pale (this form at present only known from Victoria).

Form 2. Elytra entirely dark (usually black, but sometimes deeply infuscated, rarely with the suture obscurely diluted with red).

A specimen (from Benalla) has the elytra deeply infuscated except for a conspicuous flavous spot on each shoulder; one (from Tamworth) has the humeral spots enlarged so as to occupy the whole of the basal two-fifths (except the suture); another (also from Tamworth) has basal markings occupying the same space, but the rest of the elytra very lightly infuscated; one (from Brisbane) has the apical two-fifths of elytra deep black; sharply defined from the flavous basal portion; another (also from Brisbane) has the apical half black and the basal half deeply infuscated.

PAROMARTEON CONSTANS, n. sp.

Deep purplish-blue; parts of appendages obscurely diluted with red. Clothed with straggling blackish hairs, becoming shorter, paler, and denser on under-surface and legs.

Head transverse; with a few scattered distinct punctures. Eyes large and prominent. Antennae moderately stout, extending to middle coxae, three basal joints rather thin and shining, the following to tenth equal in width, and slightly decreasing in length, eleventh distinctly longer but not wider than tenth. *Prothorax* transverse, sides strongly rounded, base slightly narrower than apex; with a few minute scattered punctures. *Elytra* distinctly wider than prothorax, sides feebly dilated to beyond the middle, and then gently rounded to apex; with fairly dense and well-defined, but not very large punctures, becoming much smaller posteriorly. Length, $3\frac{1}{4}$ - $4\frac{1}{4}$ mm.

Hab.—Queensland: Cairns district (F. P. Dodd). Type, I. 6117.

Structurally fairly close to *mutabile*, except that the elytra are rather wider; but very differently coloured, and the nine specimens in the Museum do not exhibit the least tendency to vary in colour.

TEMNOPALPUS BICOLOR, Blackb.

A specimen from the Blackburn collection was labelled "Near *Temnopalpus bicolor*, antennae longer and more slender, pronotum less closely punctulate, elytra more strongly punctulate." A specimen from Benalla differs from

this specimen as it is said to do from *bicolor*, and I believe the differences to be sexual, the Benalla specimen is certainly a female (its ovipositor is protruding and its elytra do not entirely cover the abdomen, but this latter may be characteristic of the gravid female only), the other is certainly a male (its front tarsi are noticeably dilated). Blackburn noted the type as having "traces of a central longitudinal keel, and some discal furrows" on the pronotum, which he thought were possibly abnormal. On neither of the specimens before me is there trace of a central keel, but on the specimen from his own collection there is a large shallow subfoveate depression on each side of the middle towards the base; on the Benalla specimen these are much less in evidence.

TRICHOSALPINGUS OBSCURUS, Blackb.

A specimen from Galston possibly belongs to this species; it is the size of the type ($1\frac{1}{2}$ lines) and differs from *brunneus* as the type is said to do, but its appendages are entirely pale, whereas on the type apparently only the tarsi are paler than the other parts.

TRICHOSALPINGUS VARIABILIS, n. sp.

Of a dingy reddish- or piceous-brown, with paler markings. Closely covered with short, ashen pubescence.

Head rather more convex than usual. Eyes large, lateral, and prominent. Antennae rather thin, but apical joints slightly dilated, scarcely passing base of prothorax. *Prothorax* slightly wider than long, sides gently rounded and widest near apex, with a rather deep oblique impression on each side of base. *Elytra* much wider than prothorax, sides gently dilated to apical fourth and then widely rounded, with vague traces of striation. Length, $3-3\frac{1}{2}$ mm.

Hab.—Victoria: Dividing Range (Blackburn's collection); New South Wales: National Park (A. M. Lea); Queensland: Dalby (Mrs. F. H. Hobler), Hamilton (C. J. Wild), Rockhampton, to light (Lea). Type, I. 6113.

There is a single specimen from each locality before me and no two are exactly alike; quite possibly some other specimens that have been put aside unnamed should also have been referred to the species; they mostly have the appendages more or less distinctly paler than the body-parts, but the sides of the elytra are also usually paler than the adjacent parts. The type (from the Dividing Range) has two pale spots on each elytron: a large one commencing on the shoulder and terminating near the suture at the basal third, and a small subsutural one beyond the middle, the space between the spots appearing as an obscure fascia. The specimen from

the National Park is slightly darker than the type, with the sub-basal spot on each elytron smaller and disconnected with the shoulder, and the postmedian spot larger but more vaguely defined. The specimen from Dalby has the sub-basal spot almost round and sharply defined, but the postmedian one entirely absent. The other specimens have the paler elytral markings extended to cover most of their surface; on the Rockhampton one there is a vaguely infusate postmedian spot close to the suture, and an infusate space near the shoulder; the specimen from Hamilton (in the Queensland Museum) has a vaguely infusate submedian spot on each elytron, obscurely advanced along the side to near the shoulder. The punctures on the upper-surface are dense and very fine, but are rather more sharply defined on the elytra than elsewhere. From *longicollis* (to which the Victorian and New South Wales specimens seem to be allied on account of their markings) it differs in its shorter prothorax (with basal impressions more conspicuously marked).

ORCHESIA MINUTA, Lea.

Some specimens from Tasmania (Mount Wellington, Hobart, and Frankford), Victoria (Nelson), New South Wales (Sydney), and South Australia (Port Lincoln and Mount Lofty) appear to belong to this species, but differ from the types in being larger ($2\frac{1}{4}$ - $2\frac{3}{4}$ mm.) and slightly more robust.

ORCHESIA MACILENTA, n. sp.

Of a rather dingy flavous; head, under-surface, and three angular elytral fasciae blackish or deeply infuscated. Clothed with extremely short pubescence.

Head almost concealed from above; with small punctures. *Antennae* thin, slightly dilated towards apex. *Prothorax* about once and one-half as wide as the median length, sides strongly rounded and much wider at base than at apex, with a large but vague depression towards each side of base; with small and dense but rather sharply-defined punctures, marginal carina basal and oblique. *Elytra* thin, the width of prothorax (and with very similar punctures) parallel-sided to about apical fourth. Hind spurs distinctly longer than their supporting *tibiae*, and almost as long as the following joint. Length, 2 mm.

Hab.—Queensland: Mount Tambourine (A. M. Lea). Type (unique), I. 6102.

A small thin species, which at first glance appears to belong to the *Mordellidae*. The dark markings of the elytra are in three series as on *bryophila*, but the pattern is not the same; the first commences at the base (and extends to the

scutellum), is then deflected obliquely backwards, and then to the sides, so that a large pale spot is left on each shoulder; the second is submedian, commences almost at the suture, is deflected obliquely backwards, and then outwards, but does not quite extend to the sides; the third is sub-apical, and touches neither suture nor sides, so that it appears as a rather large spot on each elytron; between these spots and the median fascia the pale portion appears as six elongate, almost disconnected spots, of which the one on each side of the suture is considerably longer than the others.

ORCHESIA MULTINOTATA, n. sp.

Castaneous; palpi paler, parts of under-surface infuscated. Densely clothed with somewhat golden pubescence, in places becoming conspicuously darker.

Head with small dense punctures. *Antennae* rather short, four apical joints forming a loose club. *Prothorax* about twice as wide as the median length, sides almost parallel on basal half, strongly rounded in front, base truncate, much wider than apex, with a very shallow depression near base towards each side; marginal carina on each side confined to basal half. *Elytra* the width of prothorax at base, parallel-sided for a short distance, and then gradually narrowing to apex. *Under-surface* strongly ridged along middle. Hind spurs about as long as their supporting *tibiae*, and shorter than the following joint. Length, 4 mm.

Hab.—Victoria: Dividing Range (Blackburn's collection). Type (unique), I. 6100.

Structurally close to *austrina*, but multi-maculate. At first glance the upper-surface appears to have numerous dark spots; these are due partly to the derm itself being darker than the adjacent parts, but principally to the clothing there being conspicuously dark, in some lights the spots appear to be of a rusty-brown, and in others almost purplish; there are four across the middle of the pronotum; on each elytron there is one on the suture at the base, one a short distance behind it, two conjoined ones between and to the side of the first two, several forming an irregular fascia (interrupted at the suture) across the middle, and several forming another interrupted fascia at about the apical fourth. The punctures of the upper-surface are dense and fine, and much the same throughout.

TALAYRA ELONGATA, MacL.

Two specimens from the Tasmanian Lakes district differ from the typical form of this species in having the punctures of the upper-surface much finer, but I can find no other differences likely to be of specific importance.

CTENOPLECTRON HUMERALE, n. sp.

Blackish, in some parts changing to dark brown; labrum, antennae, palpi, and tarsi more or less brightly castaneous. Densely clothed with short, brownish pubescence.

Head with dense and small punctures. Eyes large and reniform. Antennae long and thin, first joint stouter but slightly shorter than third, second about one-third the length of third. *Prothorax* almost as long as wide, hind angles lightly produced, sides rapidly sloping down to front angles, which are widely rounded off, base lightly bisinuate and with three shallow depressions, of which the median one is vaguely traceable to the middle; with densely-crowded punctures of small size, many of which are obliquely or transversely confluent; marginal carina on each side acute on basal half, then becoming obtuse and vanishing before apex. *Elytra* long and thin, feebly diminishing in width from near the base, striation conspicuous; with very dense punctures transversely arranged near base, but shoulders somewhat raised and strongly transversely strigose. Four hind *tibiae* strongly serrated on upper-surface; spurs to hind pair very unequal, the longer slightly more than one-third the length of the following joint. Length, 16½-17 mm.

Hab.—Queensland: Kuranda (H. W. Brown). Type, I. 6097.

Much larger than any previously described Australian species of the family. The pubescence at the tips of the abdominal segments and on the tibial serrations, although dingy from most directions, from others appears to glow with fiery-red; on the upper-surface the pubescence from some directions causes the derm to appear somewhat rusty, but the apical portions of the elytra are really somewhat brownish. On one of the two specimens before me the eleventh joint of the antennae is slightly constricted at the apical third (on the other both antennae are broken).

CTENOPLECTRON RUFOBRUNNEUM, n. sp.

Piceous-brown, in parts more or less reddish, antennae and palpi paler. Densely clothed with short, brownish or ashen pubescence.

Head with small, crowded punctures. Eyes widely transverse, subreniform. Antennae rather long and thin, first joint slightly longer than third, second about half the length of third. *Prothorax* almost as long as wide, sides strongly rounded, hind angles feebly produced, front ones strongly rounded off, base lightly bisinuate and with three shallow depressions, of which the median one is continued almost to

apex; with very small crowded punctures, more or less transversely or obliquely arranged; marginal carina on each side acute from base to beyond the middle, but vanishing before apex. *Elytra* parallel-sided to beyond the middle, striation well defined; with dense minute punctures transversely arranged towards base, but shoulders rather strongly transversely strigose. Four hind *tibiae* strongly serrated on upper-surface, spurs to hind pair unequal. Length, $9\frac{1}{2}$ mm.

Hab.—South Australia: Adelaide (J. G. O. Tepper). Type (unique), I. 6096.

With the general appearance of *Dircaea velutina*, but elytra distinctly striated, prothorax with distinct median line, and tip of scutellum bilobed. It was referred to *Ctenoplectron* as the spurs to the hind *tibiae*, although fairly long, are unequal, but not to the same extent as in *agile*; the hind tarsi are missing from the type, but the longer spur is about one-fifth the length of its supporting tibia; from *agile* also it differs in being wider, and without satiny lustre (except on the abdomen), elytral striation more pronounced, apical third of suture not conspicuously serrated, and median line of pronotum less conspicuous in front and deeper behind. The head is of a dingy red, with a vaguely infuscated spot in middle. From some directions the pronotum and elytra appear to be irregularly mottled with obscure red, but the under-surface and legs are more reddish than piceous.

DIRCAEA BIMACULIPENNIS, n. sp.

Black; a large spot on each elytron, clypeus, labrum, and appendages more or less reddish-flavous. Densely clothed with very short, ashen (in some places silken) pubescence.

Head with densely-crowded and small, but sharply-defined punctures. Eyes transversely elliptic, about four times as wide as long. Antennae extending almost to tip of metasternum, second joint about half the length of first, and two-thirds the length of third. *Prothorax* about as long as wide, hind angles distinctly produced, sides feebly increasing in width from base to near apex, and then strongly rounded, median line fairly deep and distinct at base, but vanishing before apex, a vague depression on base towards each side; punctures somewhat larger than on head; marginal carina on each side conspicuous throughout. *Elytra* at base slightly narrower than prothorax, feebly diminishing in width almost from base, rather lightly striated, the striae almost vanishing laterally and posteriorly, except for the subsutural and submarginal ones; with very small dense punctures posteriorly, but towards base becoming transversely arranged or strigose, more conspicuously on shoulders than elsewhere.

Under-surface with small and dense, clearly-defined punctures, except on abdomen, where they are much denser and smaller. Spurs to hind *tibiae* unequal, the longer about one-third the length of the following joint. Length, 6-9½ mm.

Hab.—New South Wales: Sydney (W. du Boulay), Jenolan (J. C. Wiburd); South Australia: Lucindale (B. A. Feuerheerdt, No. 335). Type, I. 6095.

The single large spot on each elytron readily distinguishes this from all the other spotted Australian species; it commences near the shoulder, and terminates just before the middle; it is slightly nearer the side than suture, and varies somewhat in size and intensity of colour. On two specimens (including the type) all the femora are deeply and the antennae lightly infuscated; on a third the antennae are not at all infuscated. They are all males. The transverse sculpture of the elytra is very evident towards the base, so that at first glance true punctures appear to be absent there, but on close examination a row of very fine and close punctures may be seen to fill each striga; there is a feeble longitudinal depression inwards of each shoulder.

LAGRIIDAE.

LAGRIA GRANDIS, Gyll.

L. rufescens, Boi.

L. affinis, Boi.

L. ruficollis, W. S. Macl.

This species is extremely abundant in many parts of Australia,⁽⁹⁾ and is very variable in colour. The commonest form has the elytra stramineous or of a very light reddish-brown, the prothorax with a slightly more reddish tone, and the head somewhat darker (often infuscated about the base); the antennae are black, with the four basal joints partly red, the legs are black, with the femora reddish at the base. Very few specimens are without a slight coppery tinge, and many have the base of the elytra blue, or with a bluish gloss. Many specimens have more than the four basal joints of antennae reddish at the base, and many have the legs (except the knees) entirely black; on an occasional specimen the appendages (except for a feeble infuscation in places), are uniformly pale. The elytra are clothed with short white pubescence. The sexes may be readily distinguished by the antennae, hind legs, and abdomen; in the male the ninth joint of the antennae is produced at the inner apex into a conspicuous tooth, the tenth is produced there but to a less extent, and the eighth and

(9) Queensland (Cairns) to Tasmania and South Australia (Port Lincoln and Kangaroo Island).

seventh to a still less extent; in the female the seventh-tenth are evenly produced at the apex and not at all lop-sided. On the male there is a conspicuous triangular tooth on the inner edge of the hind tibiae, just before the middle; from the female this is absent; on the male also the space beyond the tooth is often serrated, and the other tibiae are serrated (more conspicuously on some specimens than on others); on the male only, the basal segment of the abdomen is acutely carinated along the middle. The antennae of both sexes vary somewhat in thickness, and the eleventh joint in length; the eleventh also is lightly nodulose.

I have seen several species standing under the name of *affinis* in Australian collections, but the description seems to have been drawn up from the pale form of *grandis*, and till evidence to the contrary is forthcoming I think it should be treated as a synonym of that species.

LAGRIA CYANEA, Macl.

This species is abundant in many parts of Queensland, and the elytra vary from green, through blue, to deep purple. Mr. Carter considers that *pupureipennis* is a colour variety of it, but if so it is at least a variety well worthy of a name.

LAGRIA ALBOVILLOSA, Macl.

In nearly all the specimens I have seen of this species the elytral suture (not mentioned in the original description) is narrowly reddish.

LAGRIA PULCHRIVARIA, n. sp.

♂. Upper-surface variegated; parts of muzzle and of several basal joints of antennae, under-surface, and most of femora more or less red, rest of legs and of antennae more or less blackish. Clothed with rather short and not very dense, whitish pubescence.

Head with crowded and rather coarse punctures. Antennae not very thin, first joint longer than second and third combined, second small, third slightly longer than fourth, seventh and tenth lightly produced to one side at apex, eighth more, and the ninth still more noticeably produced there, eleventh granulate, slightly longer than three preceding joints combined. *Prothorax* subcylindrical, slightly longer than wide, with crowded and rather coarse punctures. *Elytra* at base about twice the width of prothorax, sides dilated to near apex and then widely rounded; punctures sharply defined but somewhat smaller than on prothorax, and becoming smaller posteriorly. Four hind *tibiae* lightly denticulate on lower surface. Length, (♂, ♀), 9-11 mm.

♀. Differs in being somewhat wider, eyes more widely separated, seventh-tenth joints of antennae evenly produced to apex, and prothorax lightly transverse, with the sides more strongly rounded.

Hab.—Queensland: Mount Tambourine (H. J. Carter and A. M. Lea), Brisbane (Macleay Museum, T. McGregor and T. Lea); New South Wales: Tweed and Clarence Rivers, Mount Victoria, Gosford (A. M. Lea), Dorriggo (W. Heron), Canterbury, Eden (H. J. Carter), Sydney (A. J. Coates), Jenolan (J. C. Wiburd). Type, 1. 6672.

A medium-size species of very variable colours; the common form (including the type) in Southern Queensland and Northern New South Wales, has the head (parts of muzzle excepted) and prothorax (the base obscurely diluted with red) of a dark slaty-blue (on some specimens almost black), the elytra are rather more brightly coloured at the base, but soon change to coppery, and then to coppery-purple, most of the elytra being of the latter colour; on many specimens the apical four-fifths of the elytra are of a beautiful deep purple. About Sydney and on the Blue Mountains the common form has the slaty-blue portions of the northern form not so dark, often reddish, with a bluish gloss, and the elytra are usually stramineous or flavous, with a coppery gloss (much as on many specimens of *grandis*). The male has antennae much as on the male of *grandis*, but is readily distinguished from that species by the hind tibiae without a conspicuous tooth, and by the basal segment of abdomen not longitudinally carinated. A male from Mount Victoria has the median joints of the antennae unusually stout.

LAGRIA DECIPiens, n. sp.

♂. Dull red; elytra coppery-flavous, about base somewhat darker, antennae (parts of basal joints excepted), parts of palpi, apical parts of femora, tarsi, and parts of tibiae blackish. Clothed with moderately dense, whitish pubescence, interspersed with numerous longer and more or less erect hairs.

Head with crowded and rather coarse punctures. Antennae not very thin, first joint slightly longer than second and third combined, second short, third and fourth subequal, the others decreasing in length, with the tenth distinctly transverse, eleventh granulate, as long as the three preceding combined. *Prothorax* subcylindrical, lightly transverse; with crowded and rather coarse punctures. *Elytra* much wider than prothorax, sides dilated to well beyond the middle; punctures smaller than on prothorax, and becoming smaller posteriorly. *Tibiae* lightly denticulate. Length, 10-11 mm.

Hab.—Queensland: Mount Tambourine (A. M. Lea); New South Wales: Blue Mountains (H. J. Carter). Type, I. 6673.

The male in general appearance is much like many females of *grandis*, and has very similar antennae to the female of that species; the type probably would have been considered a variety of *grandis*, but from the tip of its abdomen an oedeagus is protruding, its abdomen is not longitudinally carinated at the base, and its hind tibiae are not conspicuously dentate. The specimen in Mr. Carter's collection also has a protruding oedeagus, but the coppery tinge on its elytra is less pronounced than on the type. A specimen from Mount Tambourine is perhaps a female; it differs from the type in having the elytra somewhat wider posteriorly, and basal joint of antennae shorter.

LAGRIA ERYTHROPTERA, n. sp.

♂. Reddish; elytra with a vague bluish or coppery gloss, head and prothorax of a dark dingy blue, in places diluted with red, four or five basal joints of antennae reddish, the others black, base of femora reddish, rest of legs blackish with a more or less distinct bluish gloss. Clothed with rather long, straggling, whitish hairs and pubescence.

Head with crowded and rather coarse punctures. Antennae rather short, first joint stout, distinctly shorter than third, second small, seventh-tenth increasing in width, and combined slightly longer than eleventh. *Prothorax* subcylindrical, slightly longer than wide; punctures much as on head. *Elytra* much wider than prothorax, sides dilated to beyond the middle; punctures larger than on prothorax, but not so crowded. Length, 7-8 mm.

Hab.—Queensland: Mackay (C. French and Blackburn's collection, from R. E. Turner). Type, I. 6671.

A small species, with conspicuously reddish elytra. I can find no distinctive external features indicative of sex, but from each of the specimens an oedeagus is protruding.

LAGRIA TENUICOLLIS, n. sp.

♂. Black; head and prothorax with an obscure bluish gloss, elytra with an obscure purplish gloss; legs and under-surface piceous. Moderately clothed with somewhat depressed, ashen pubescence.

Head with crowded punctures. Antennae not very thin, first joint stout and slightly longer than third, tenth lightly, the ninth rather strongly produced to one side at apex, eleventh granulate, slightly longer than three preceding joints combined. *Prothorax* subcylindrical, distinctly longer than

wide, sides feebly dilated to base, with an irregular depression on each side behind middle; punctures much as on head. *Elytra* fully twice the width of prothorax at base, sides dilated to near apex; punctures larger than on prothorax but not quite so crowded. Four hind *tibiae* lightly denticulate. Length, 9 mm.

Hab.—Queensland: Cairns district (A. M. Lea). Type (unique), I. 6684.

A small species in general appearance fairly close to some of the dark varieties of *cyanea*, but the male with the ninth joint conspicuously produced to one side at apex (as on the males of *grandis*, *aeneoviolacea*, and *pulchrivaria*); the abdomen is not longitudinally carinated. The prothorax is considerably narrower than on any other species in the Museum.

ANTHICIDAE.

TRICHANANCA VICTORIENSIS, Blackb.

Lemodes corticalis, Lea.

The genus *Trichananca* was referred by Blackburn (*ante*, 1891, p. 341) without expressed doubt to the *Oedemeridae*, and compared with several genera of that family. Subsequently I named as *Lemodes corticalis* a species that still later (*l.c.*, 1899, p. 83) he called attention to as a synonym of *Trichananca victoriensis*, but expressed doubts as to the genus really belonging to the *Oedemeridae*. Blair has recently transferred both *Lemodes* and *Trichananca* (as closely allied genera) to the *Anthicidae*, and confirms my description of the head as having a distinct neck; a statement Blackburn called in question.

TRICHANANCA CONCOLOR, King (formerly *Anthicus*).

This species is congeneric with the preceding one, from which it differs in being somewhat narrower and more cylindrical, antennae stouter, the apical joint shorter and semidouble, prothorax more dilated in front and with denser punctures, elytra with larger punctures in more regular rows, but the punctures becoming much smaller and the rows almost disappearing posteriorly.

TRICHANANCA PISONIAE, n. sp.

Flavous; legs (knees and tarsi excepted) paler than elsewhere, base of prothorax and elytra on suture about summit of apical slope lightly infuscated. Clothed with short, pale pubescence, and in addition with numerous erect, dark hairs.

Head rather convex, strongly narrowed behind eyes and with a distinct neck; scarcely visibly punctate. Eyes large

and prominent. Antennae moderately long, second joint not much shorter than third, the others to tenth somewhat longer, eleventh somewhat acutely pointed and distinctly longer than tenth. *Prothorax* distinctly longer than wide, front portion somewhat dilated, sides strongly constricted towards base, median line rather wide and shallow; with large but shallow punctures, each with a central pit, but about apex and sides with smaller punctures. *Elytra* rather long, almost twice the width of base of prothorax, parallel-sided to near apex; with close-set rows of large deep punctures, becoming much smaller posteriorly. Length, 4-4½ mm.

Hab.—Queensland: Cairns district, five specimens trapped by seeds of *Pisonia brunoniana* (F. P. Dodd). Type, I. 6735.

Differs from *concolor* in having longer antennae, with the apical joint not semidouble, head without distinct punctures, prothorax narrower, with median line less impressed, and the lateral constrictions deeper, elytra with rows of punctures closer together, and as rows continued longer, and with somewhat shorter legs. From *victoriensis* (which has very similar antennae) it differs in being decidedly narrower, prothorax much less dilated in front and with different punctures, and elytral punctures considerably larger and in more regular rows.

TRICHANANCA NIGRIPENNIS, n. sp.

Flavous or brownish-flavous; elytra black or blackish, with a vague bluish gloss. Clothed with short, depressed, ashen pubescence, and in addition with numerous long, erect, dark hairs. Length, 4-5 mm.

Hab.—Northern Territory: King River (W. McLennan). Type, in National Museum; co-type, I. 6757, in South Australian Museum.

Structurally very close to the preceding species, but elytra entirely dark, and with rather more elongated punctures.

The known species of the genus may be thus tabulated:—

Elytra entirely dark		<i>nigripennis</i>
Elytra at most partly infuscated.		
Apical joint of antennae semidouble		<i>concolor</i>
Apical joint not semidouble.		
Head with distinct punctures between eyes		<i>victoriensis</i>
Head without distinct punctures		<i>pisoniae</i>

XYLOPHILIDAE.

This family is represented by a great number of species in Australia, but they are usually very rare in individuals; unlike those of the allied family *Anthicidae* the individuals

usually feign death on being disturbed, hence when beaten into the collecting umbrella or sheet they need to be closely looked for. Thus even in some fairly large collections of Australian beetles they are either totally unrepresented, or represented by very few specimens. Great diversity of opinion exists as to the genera of the family, but with the largest accumulation of Australian species and specimens ever examined together, the network of relationships appears to be too intricate for the bulk of the species to be referred to more than one genus; more especially as the sexual differences are often very considerable. The eyes are always large, and sometimes occupy most of the head, and vary from almost entire to very deeply notched, and they are usually larger and closer together in the male than in the female. The antennae are always longer in the male than in the female (sometimes considerably so), occasionally some of their joints are provided with long rami, and occasionally the apical joints are modified into clasping organs. The legs usually have distinctive sexual characters, the front trochanters being frequently armed, but owing to the difficulties in manipulating the front legs for examination these must be often overlooked; the hind femora are usually stouter in the male than in the female, and dentate or fringed on the lower surface; in many species the hind tibiae are conspicuously dilated to and notched at apex; this character is not entirely a sexual one, but it is more pronounced in the male.

With very few exceptions the specimens before me had to be floated off and set for examination, and to prepare such small specimens (some of which were taken many years back) that the under-parts and legs are clearly visible was not always easy; in particular it was difficult to set out the front legs, so that although it was easy enough to note the colour of these, their sculpture had often to be passed over. Frequently also it was impossible to distinguish the sexes from processes projecting from the tip of the abdomen; often when sufficiently long and soft such a process could be seen to be an ovipositor, and sometimes an oedeagus was distinct; but on the type of *pilosicornis*, and on specimens of several other species, the distinct tip of an oedeagus may be seen protruding from the base of a soft ovipositor-looking process.

Following is a catalogue of the previously-described species:—

ABNORMIS, King (*Anthicus*): Mast. Cat. Sp., No. 4269; Champ.: Trans. Ent. Soc. Lond., 1916, p. 144.

Syzeton laetus, Blackb.: Trans. Roy. Soc. S. Austr., 1891, p. 337; *l.c.*, 1894, p. 219.

Hylophilus major, Pic: Bull. Soc. Ent. Fr., 1912, p. 48; Annales, p. 286. N.S. Wales; Vict.

- ALBONOTATUS, Champ.: Trans. Ent. Soc., Lond., 1895, p. 251. N. Terr.⁽¹⁰⁾
- ALPICOLA, Blackb. (*Syzetonellus*): Trans. Roy. Soc. S. Austr., 1891, p. 340. Q'land; N.S. Wales; Vict.
- ARCUATICEPS, Pic (*Hylophilus*): Bull. Soc. Ent. Fr., 1912, p. 48; Annales, p. 284. Q'land.
- BASICORNIS, Lea (*Syzetoninus*): Proc. Linn. Soc. N.S. Wales, 1895, p. 281. N.S. Wales; Vict.; Tas.
- CRASSICORNIS, Lea (*Syzetoninus*): *l.c.*, 1894, p. 626. Q'land; N.S. Wales.
- DARWINENSIS, Champ.: Trans. Ent. Soc. Lond., 1916, p. 46. N. Terr.
- DUPLOCINCTUS, Champ.: *l.c.*, p. 62. Q'land.
- EUCALYPTI, Lea: *l.c.*, 1897, p. 598; Champ.: Trans. Ent. Soc. Lond., 1916, p. 46. W. Austr.
- FERGUSONI, Champ.: Trans. Ent. Soc. Lond., 1916, p. 63. N.S. Wales.
- FLAVESCENS, Champ.: Ent. Mo. Mag., 1917, p. 2, N.S. Wales.
- FLUCTUOSUS, Champ.: Trans. Ent. Soc. Lond., 1895, p. 250. N. Terr.⁽¹¹⁾
- FRACTICOLLIS, Champ.: Trans. Ent. Soc. Lond., 1916, p. 64. N.S. Wales.
- IMMACULATUS, Lea (*Syzeton*): Proc. Linn. Soc. N.S. Wales, 1894, p. 622. N.S. Wales; Vict.; Tas.
- IMPRESSICOLLIS, Lea (*Syzetoninus*): *l.c.*, p. 624. N.S. Wales.
- INCISUS, Lea, new name.
Syzetonellus humeralis, Lea, n. pr.: *l.c.*, 1894, p. 627; Champ.: Ent. Mo. Mag., 1914, p. 265. N.S. Wales.
- INCONSPICUUS, Blackb. (*Syzetoninus*): Trans. Roy. Soc. S. Austr., 1891, p. 339. N.S. Wales; Vict.; Tas.; S. Austr.
- INTERRUPTUS, Lea, new name.
Syzeton lateralis, Blackb., n. pr.: *l.c.*, p. 338; Champ.: Ent. Mo. Mag., 1914, p. 265. N.S. Wales; Vict.
- MALLEIFER, Champ.: Ent. Mo. Mag., 1914, p. 264 (*cum fig.*). Q'land.
- MORULUS, Champ.:⁽¹²⁾ Trans. Ent. Soc. Lond., 1895, p. 250; 1916, p. 46. Tas.

(10) Adelaide River is in the Northern Territory.

(11) See preceding note.

(12) I was under the impression that *morulus* (1895) was a synonym of *impressicollis* (1894), and so recorded it (Proc. Linn. Soc. N.S. Wales, 1897, p. 589), but Mr. Champion wrote to me that this was not the case. In his catalogue of the *Hylophilidae* M. Pic, in error, gives precedence to *morulus*.

- MUNDUS, Blackb. (*Syzetoninus*): Trans. Roy Soc. S. Austr., 1891, p. 339. Q'land; N.S. Wales; Vict.; S. Austr.
- OCTOMACULATUS, Champ.: Ent. Mo. Mag., 1917, p. 1. N.S. Wales.
- PARALLELUS, Lea (*Syzetoninus*): Proc. Linn. Soc. N.S. Wales, 1895, p. 281. W. Austr.
- PECTINICORNIS, Champ.: Trans. Ent. Soc. Lond., 1895, p. 249, pl. vi., fig. 12. Tas.
- QUADRIFOVEATUS, Lea (*Syzetoninus*): Proc. Linn. Soc. N.S. Wales, 1894, p. 623. N.S. Wales.
- SEMITESTACEUS, Pic (*Syzeton*): Bull. Soc. Ent. Fr., 1912, p. 48; Annales, p. 287. Q'land.
- SEXFASCIATUS, Champ.: Ent. Mo. Mag., 1917, p. 3. N.S. Wales.
- SORDIDUS, Lea (*Syzetonellus*): Proc. Linn. Soc., N.S. Wales, 1896, p. 626. N.S. Wales.
- SUBELONGATUS, Pic (*Syzetonellus*): Melang. Exot.-ent., 1911, p. 13; Ann. Soc. Ent. Fr., 1912, p. 283. Vict.
- UNDATUS, Gemm.: Mast. Cat. Sp., No. 4242.
fasciatus, Boh.: l.c.; Champ., Trans. Ent. Soc. Lond., 1916, p. 45.
Syzeton blackburni, Lea: Proc. Linn. Soc. N.S. Wales, 1894, p. 621.
Hylophilus walesianus, Pic:⁽¹³⁾ Bull. Soc. Ent. Fr., 1912, p. 48; Annales, p. 285. Q'land; N.S. Wales.
- VARIEGATUS, Lea (*Syzetoninus*): Proc. Linn. Soc. N.S. Wales, 1894, p. 624. Q'land; N.S. Wales; W. Austr.

In addition to these M. Pic described *Hylophilus cribricollis* from Australia (Bull. Soc. Ent. Fr., 1912, p. 48; Annales, p. 286), but Champion (Ann. Mag. Nat. Hist., Sept., 1915, p. 221) states that his species was recorded in error from Australia, and really occurs in Ceylon.

XYLOPHILUS UNDATUS, Gemm.

The markings on the elytra of this species vary from a small and not very dark spot on each to a much larger oblique black one, almost touching the side and suture.

Var. 1. A male from Mount Tambourine (there are normal specimens also from there in the Museum) differs from the type male of *blackburni* (a synonym of *undatus*), in having the eyes closer together (almost touching) at their nearest point, the antennae entirely pale, and the elytra with

(13) Mr. Champion wrote me that he considered *walesianus* a synonym of *undatus*, and I concur with that opinion.

a wide median black fascia occupying almost one-third of their surface, and complete from side to side.

Var. 2. Two females from New South Wales (National Park) have the antennae (except parts of the three basal joints) deep black; one of them has the hind femora infusate towards the apex, but on the other they are entirely pale.

XYLOPHILUS PECTINICORNIS, Champ.

The female of this species differs from the male in being slightly larger, the eyes smaller and not so close together, and the antennal joints (after the third) very different; the third is slightly shorter than the fourth and fifth combined, the fourth to tenth are of almost even width but gradually decrease in length, so that although the fourth is slightly longer than wide, the tenth is slightly transverse, the eleventh is dilated and almost as long as the ninth and tenth combined. Several specimens were beaten from "Blackwood" (*Acacia melanoxydon*).

XYLOPHILUS OCTOMACULATUS, Champ.

Only the female of this species was known to Champion. There are two specimens (sexes) in the Museum from Cairns and Mount Tambourine, and a male in my own collection from Wollongong. On the male the antennae are rather long, with the second joint small, third-tenth subcylindrical and equal, eleventh almost as long as eighth-tenth combined, subcylindrical on basal half, then irregular towards and pointed at apex; the legs are rather long, front trochanters lightly spinose, hind femora stout; hind tibiae with apical half stouter than basal half, but neither dilated to nor notched at apex. The female differs in having smaller eyes, less close together (although fairly close), antennae distinctly shorter, with the eleventh joint considerably smaller and thicker in proportion, abdomen more convex, legs shorter, front trochanters unarmed, and hind femora thinner. The species is structurally fairly close to *abnormis*, but the markings and antennae are very different. On one specimen the prothorax is almost entirely dark, on the others it is mostly of a dingy red; on one male there are four flavous spots on each elytron: one on the shoulder, a smaller one near the suture at the basal third, a larger one at the middle, and a still larger subapical one; the latter with its fellow on the other elytron forming a bisinuate fascia. On a second male the first sutural spot is enlarged and continued to the base, and the subapical one is split up into two. On a female there are but three spots on each elytron: one on the shoulder, the medio-sutural one, and the apical one, the latter being considerably enlarged.

The pubescence is rather longer than is usual in the genus. The distance between the eyes of the male is about equal to the thickness of the basal antennal joint.

XYLOPHILUS MUNDUS, Blackb.

This species occurs in Queensland (Dalby), New South Wales (National Park), and South Australia (Woodville), as well as in Victoria. The basal marking of the elytra is usually ill-defined and occasionally absent; the median fascia is rather wide at the sides, and towards the suture is narrowed and directed slightly forwards, but on an occasional specimen is broken up into two large disconnected spots; the apical infuscation is more or less triangular and narrowly advanced along the suture to join in with the median fascia. One of the specimens from Dalby has the dark parts of the elytra considerably increased in size, and of the same shade (rather deeper than usual) of colour as the head and prothorax, as a result the pale portions on each elytron appear as two rather narrow curved lines: of these the first is semicircular, commences at the scutellum and ends on the shoulder, and the second commences near the suture behind the median fascia, curves round, and is then suddenly dilated to the side.

XYLOPHILUS ALPICOLA, Blackb.

There are numerous specimens of this species before me from New South Wales (Nepean River, Sydney, National Park, and Forest Reefs) and one from Northern Queensland; but only three have the palpi dark; on all the others they are no darker than the antennae. As suspected by Blackburn the armature of the hind femora is confined to the males.

XYLOPHILUS IMMACULATUS, Lea.

Two specimens (beaten from eucalypti on Mount Wellington) differ from the type of this species in having a conspicuous reddish spot on each shoulder, the two lightly separated by the suture; on one of them there is also a large, dingy, ill-defined reddish spot towards the apex of each elytron; but it is scarcely traceable on the other. On the type the elytra at first glance appear to be uniformly dark, but on close examination and in a good light may be seen to be not as dark about the shoulders as elsewhere; its elytral punctures are dense, sharply defined, and of moderate size ("minutely" was certainly not the correct word to use for them), but become smaller posteriorly. The Tasmanian specimens are males, and have the eyes somewhat closer together than on the type, the antennae longer, none of the joints transverse,

the eleventh at its widest not much wider than the tenth, but almost as long as the ninth and tenth combined.

XYLOPHILUS BASICORNIS, Lea.

Two specimens from Tasmania (Hobart and Frankford) differ from the type of this species in being somewhat larger, and with the elytral markings and clothing more conspicuous; on each of them the pale basal portion of each elytron occupies the extreme base, and its posterior edge is conspicuously incurved, so that there appear to be four reddish spots extending from a red base; the pale clothing forms a conspicuous bisinuate fascia across the apical third. On the type the basal markings and pubescent fascia are somewhat as on the Tasmanian specimens, but with a blurred appearance.

XYLOPHILUS INCISUS, new name.

Syzetonellus humeralis, Lea, n. pr.

Mr. Champion having pointed out that the name *humeralis* was already in use in *Xylophilus* when I proposed it for a species of *Syzetonellus* (since merged in *Xylophilus*), the above substitute is now proposed.

XYLOPHILUS INTERRUPTUS, new name.

Syzeton lateralis, Blackb., n. pr.

Syzeton having been also merged in *Xylophilus*, the above substitute is proposed for *lateralis* (Blackburn), that name also having been previously used in *Xylophilus*.

XYLOPHILUS ABUNDANS, n. sp.

♂. Blackish or brownish; elytra fasciate, legs (femora sometimes infuscated) and basal half of antennae testaceous. Densely clothed with short, ashen pubescence.

Head with small punctures. Eyes of moderate size, widely separated, prominent, front lightly notched. Antennae moderately long and thin, eleventh joint briefly ovate, slightly wider than and about as long as ninth and tenth combined. *Prothorax* slightly transverse, sides feebly increasing in width to near apex and then rounded off; with dense and fairly conspicuous punctures, with a shallow depression on each side of base. *Elytra* much wider than prothorax, and distinctly wider than head, sides feebly dilated to beyond the middle; with dense and well-defined punctures, becoming smaller posteriorly, with a very vague oblique depression on each near scutellum, the depressions scarcely traceable, but with larger punctures than elsewhere. *Legs* rather long and thin;

front tibiae lightly curved, hind ones dilated towards and notched at apex. Length, $1\frac{1}{2}$ -2 mm.

♀. Differs in having shorter antennae, eyes somewhat smaller, elytra more parallel-sided, legs shorter, front tibiae straighter, and hind ones not quite so wide at apex.

Hab.—Lord Howe Island (A. M. Lea). Type, I. 6161.

A variable species obtained in abundance on the island. On some specimens the ground-colour is black, but on many (especially females) it is not even a very dark brown; the prothorax is sometimes entirely dark, but usually has the medio-basal portion obscurely paler, on some specimens the only dark part is a median blotch; on the elytra of the most abundant form there is a single sub-basal flavous fascia, commencing on each elytron near the shoulder, where it is widest, and directed obliquely towards the suture, along which it extends for a short distance; but frequently a second fascia may be seen at the apical third, it is often distinct but never so sharply defined as the sub-basal one; even when both of the fasciae are absent, however, their positions are usually indicated by paler pubescence than elsewhere; the legs are frequently entirely pale; but the hind femora, or the four hind ones, are sometimes more or less deeply infuscated; the infuscation of the antennae also varies in extent and intensity. On five specimens (both sexes) the general colour is of a rather deep black, and the infuscation of the legs is extended to the four hind tibiae and tarsi; the pale pubescence is denser and more conspicuous than usual in places, and forms two very conspicuous elytral fasciae, occupying the positions of the dermal fasciae (these being entirely absent). The punctures of the upper-surface are somewhat obscured by the clothing.

XYLOPHILUS NORFOLCENSIS, n. sp.

♂. Black or variegated, appendages in parts more or less flavous. Moderately clothed with short, ashen pubescence.

Head shining and with minute punctures. Eyes prominent, widely separated, feebly notched in front. Antennae not very long, second joint subglobular, slightly longer and distinctly wider than third, third-seventh thin, the others gradually increasing in width, eleventh briefly subovate, almost as long as ninth and tenth combined. *Prothorax* distinctly transverse, sides gently rounded, slightly wider near apex than elsewhere; with dense and sharply-defined but not very large punctures. *Elytra* much wider than prothorax, and distinctly wider than head, shoulders strongly rounded, sides very feebly dilated to beyond the middle; punctures about base much as on prothorax, but becoming smaller posteriorly; with a feeble swelling on each side of

scutellum. Hind *tibiae* dilated towards and notched at apex. Length, $1\frac{1}{2}$ -2 mm.

♀. Differs in having somewhat shorter antennae, smaller eyes, elytra less parallel-sided, abdomen more convex, and legs somewhat shorter.

Hab.—Norfolk Island (A. M. Lea). Type, I. 6158.

A decidedly variable species, more robust than *abundans* from Lord Howe Island, and elytra considerably larger, with coarser punctures. Of the ten specimens taken three have the body-parts entirely deep black; with the antennae (tip lightly infuscated or not), palpi, tarsi, and parts of the femora and tibiae flavous; one has a small flavous spot on each elytron near the suture at the basal fourth; another has a similar spot, but also the apex widely flavous; on another only the tips are flavous; three have the prothorax and elytra reddish or flavous, but the elytra with the base and a large medio-lateral spot of variable size (and on one specimen conjoined to form a median fascia) black. The pronotum is without trace of the usual sub-basal impressions.

XYLOPHILUS PILOSICORNIS, n. sp.

♂. Blackish-brown; three basal joints of antennae, palpi, tarsi, and knees flavous. Lightly clothed with short dark pubescence, but denser and paler and forming markings on prothorax and elytra.

Head gently convex and with small punctures. Eyes prominent, widely separated and feebly notched in front. Antennae rather long, second joint slightly stouter than third, fourth to eighth cylindrical and subequal, ninth and tenth slightly shorter and wider, eleventh slightly wider and distinctly shorter than ninth and tenth combined. *Prothorax* lightly transverse, almost parallel-sided; with dense and small partially-concealed punctures, with a shallow semi-double basal impression. *Elytra* long and rather narrow, but much wider than prothorax, sides almost parallel to near apex; with dense and fairly strong punctures about base, becoming much smaller posteriorly; with a slight swelling on each side of scutellum, and behind each of these a shallow longitudinal impression. Tip of *abdomen* wide and very lightly incurved. *Legs* rather long and thin; four front tibiae lightly curved, the hind ones dilated to and notched at apex. Length, $2\frac{1}{4}$ mm.

Hab.—Lord Howe Island (A. M. Lea). Type (unique), I. 6160.

Decidedly narrower than any other species from the island. On the type the pale pubescence forms a distinct medio-basal spot on the pronotum (partially concealing the

impression there), and two not very pronounced fasciae on the elytra, placed as on some specimens of *abundans*; from which it may be distinguished by its considerably narrower form, longer antennae, and more sharply-defined elytral punctures. The antennae are decidedly thin, but their apparent width is increased by the blackish clothing of the eight apical joints.

XYLOPHILUS GLABER, n. sp.

♂. Black and highly polished; antennae, palpi, and parts of legs flavous. Upper-surface glabrous, under-surface sparsely pubescent.

Head with fairly numerous and sharply-defined but rather small punctures. Eyes distant, prominent, and very lightly notched in front. Antennae rather long and thin, second joint stouter but scarcely longer than third, third-seventh thin, eighth-tenth slightly dilated, eleventh distinctly wider than tenth, and almost as long as ninth and tenth combined. *Prothorax* distinctly transverse, sides feebly rounded; punctures slightly denser and coarser than on head. *Elytra* much wider than prothorax, shoulders evenly rounded, sides lightly dilated to beyond the middle; with dense and sharply-defined punctures throughout, but becoming smaller posteriorly. Hind *tibiae* feebly dilated to and notched at apex. Length, $1\frac{3}{4}$ - $2\frac{1}{4}$ mm.

♀. Differs in having somewhat smaller eyes, shorter antennae, elytra less parallel-sided, abdomen more convex, and legs shorter.

Hab.—Lord Howe Island (A. M. Lea). Type, I. 6162.

Readily distinguished from all other species known to me by its completely glabrous upper-surface. Structurally it is fairly close to *norfolcensis*. Of the seven specimens taken five have the body-parts entirely black, but two are piceous-brown, and one of the latter has the suture (except near base) and tips of elytra obscurely paler. The prothorax and elytra are without traces of the usual sub-basal impressions.

XYLOPHILUS CONSPICILLATUS, n. sp.

♂. Of a dingy brown; antennae, palpi, elytra (except for markings), and parts of legs testaceous or flavous. Densely clothed with short, ashen pubescence.

Head with dense, partially-concealed punctures. Eyes very large, close together at their nearest point, triangularly notched in front. Antennae almost extending to tips of elytra, second joint small and transverse, third very small and indistinctly separated from fourth, fifth-tenth lightly serrated, eleventh slightly wider than tenth but scarcely

longer. *Prothorax* rather small, parallel-sided to near apex and then strongly diminishing in width to apex; with dense, partially-concealed punctures, and with a feeble, semidouble median depression near base. *Elytra* much wider than prothorax; parallel-sided to near apex; with dense and fairly strong punctures about base (especially in a shallow depression behind a feeble subscutellar elevation), but becoming smaller posteriorly. *Legs* rather long and thin; hind femora stout, hind tibiae thin and parallel-sided almost throughout. Length, $1\frac{3}{4}$ -2 mm.

♀. Differs in having much smaller eyes, much more distant from each other; antennae much shorter with third joint distinctly separated from fourth, and the eleventh joint larger in proportion; prothoracic depression more conspicuous; elytra larger and less parallel-sided; abdomen more convex and legs shorter, with hind femora thinner.

Hab.—Lord Howe Island; New South Wales: Sydney (A. M. Lea), Hornsby (C. Gibbons).

The third joint of the antennae in the female is very short, but in the male it is still shorter, and so closely applied to the fourth that except on close examination the two appear as but one, and consequently the antennae appear to be ten-jointed. On each elytron there is an infuscate-elongated O, each O enclosing an elongated spot of similar colour to the other parts of the elytra; each commences at the basal fourth, and ends slightly beyond the middle, it almost touches the suture and near the base is connected with the side (so that as viewed from the side on one elytron the O appears like a Q). The specimens from Sydney agree in structure with the types, but differ in being considerably paler; on the male the O on each elytron is traceable, although not very deeply infuscated, and the four hind femora are moderately infuscated; on the female the O on each elytron is paler and not complete, and only the hind femora are infuscated. The specimen from Hornsby agrees well with the type in colour as well as in structure.

XYLOPHILUS LEUCOSTICTUS, n. sp.

♂. Blackish, parts of under-surface and of appendages obscurely paler. Clothed with dark pubescence, but becoming paler on head and parts of under-surface, and forming distinct spots on prothorax and elytra.

Head with dense, partially-concealed punctures. Eyes large, moderately separated, deeply notched. Antennae moderately long and rather stout, second joint short, transverse, and closely applied to third, third longer than first and second combined, slightly dilated to apex and almost

concealing the fourth (which is very small), fifth to tenth rather strongly serrated, eleventh subovate, distinctly longer and slightly wider than tenth. *Prothorax* lightly transverse, base, apex, and sides lightly rounded; with dense and rather small punctures. *Elytra* distinctly wider than prothorax, shoulders strongly rounded, sides almost parallel, punctures about base slightly larger than on prothorax, but diminishing in size posteriorly. *Legs* rather long; middle femora moderately stout, the hind ones very stout, both pairs fringed on hind margins; hind tibiae neither dilated nor notched at apex. Length, 2 mm.

Hab.—Northern Queensland (Blackburn's collection). Type (unique), I. 6172.

A compact black species with conspicuous pubescent markings and peculiar antennae. The pale pubescence forms six conspicuous spots on the upper-surface: two round ones near the base of the pronotum, a round one on the middle near the base of each elytron, and a less distinct one at the apical third. The distance between the eyes at their nearest point is about equal to the length of the first antennal joint. The antennae at first glance appear to be but nine-jointed, owing to the third joint being enlarged and almost concealing the very small fourth joint, and to the close adherence to its base of the second joint. The prothorax and elytra are apparently without impressions, but possibly if the pubescence was abraded some might become evident. I have been unable to closely examine the front legs of the type.

XYLOPHILUS DISCOATER, n. sp.

Reddish-flavous, palpi and tarsi paler; antennae (except about base) infuscated, elytra with a large median blackish blotch. Moderately clothed with very short indistinct pubescence.

Head moderately convex and shining between eyes; with numerous small punctures. Eyes prominent, rather widely separated, lightly notched in front. Antennae rather long and thin, second joint subglobular, third shorter and thinner than second, fourth-tenth subequal in length but very feebly increasing in width, eleventh subovate, wider and slightly longer than tenth. *Prothorax* small and lightly transverse; punctures rather small and irregular; with an irregular impression across middle, and with two conspicuous impressions at base. *Elytra* almost twice the width of prothorax, sides very feebly dilated to near apex; with rather dense and sharply-defined but not very large punctures, larger on and about some slight sub-basal swellings than elsewhere. *Legs*

moderately long; hind tibiae rather strongly dilated to and notched at tip. Length, $1\frac{1}{2}$ -2 mm.

Hab.—Queensland: Mount Tambourine, in rotting leaves; New South Wales: Wollongong, National Park (A. M. Lea). Type, I. 6164.

A very distinct species; the blotch on the elytra covers about one-third of their surface and is almost median, but along the suture is slightly nearer the base than apex. The male has slightly larger eyes than the female, longer antennae, with the third joint more closely applied to the fourth, elytra more parallel-sided, abdomen less convex, and hind tibiae more conspicuously dilated to apex.

XYLOPHILUS SYNOPTICUS, n. sp.

♂. Black; elytra bifasciate, antennae (basal joints infuscated) and parts of legs reddish. Clothed with moderately long, straggling, whitish pubescence.

Head with dense, partially-concealed punctures. Eyes very large, almost touching at their nearest point, lightly notched in front. Antennae rather long. *Prothorax* rather small and lightly transverse, sides gently rounded but rather suddenly narrowed at apex, with a shallow median line and several very shallow lateral depressions; with crowded and moderately small punctures. *Elytra* much wider than prothorax, but not much wider than head, parallel-sided from shoulders to near apex, each with a feeble swelling near scutellum; with dense and sharply-defined punctures of moderate size about base, becoming smaller posteriorly. *Legs* moderately long; hind femora rather thick; hind tibiae with apical half thicker than basal half, but not dilated to apex. Length, $2\frac{1}{2}$ - $2\frac{3}{4}$ mm.

Hab.—Northern Queensland: Blackburn's collection. Type, I. 6173.

Structurally fairly close to *abnormis* and *octomaculatus*, but the markings very different. The elytral fasciae are rather narrow; the first is reddish and close to the base, but is interrupted at the suture, the second is at the apical third, more flavous than the other, and also interrupted at the suture. The tips of the antennae of the two specimens in the Museum are missing, but the joints that are left are much as in *octomaculatus*.

XYLOPHILUS PARENTHETICUS, n. sp.

♂. Reddish-flavous; head and some elytral markings black, apical half of hind femora and base of antennae infuscated. Moderately clothed with stramineous pubescence.

Head with small, partially-concealed punctures. *Eyes* very large, almost touching at their nearest point, lightly notched in front. *Antennae* moderately long, third joint slightly longer than second and slightly shorter than fourth, fourth-tenth subequal in length and subcylindrical, eleventh dilated from base to middle, then narrowed to tip, almost as long as ninth and tenth combined. *Prothorax* lightly transverse, parallel-sided from base to near apex and then strongly narrowed to apex, with a shallow median line and scarcely traceable lateral depressions; with fairly dense and rather small, irregular punctures. *Elytra* much wider than prothorax, parallel-sided from shoulders to near apex; with dense and sharply-defined punctures of moderate size, becoming smaller posteriorly. *Legs* rather long; four front tibiae lightly curved, the hind ones straight and parallel-sided except at base. Length, $2-2\frac{1}{2}$ mm.

♀. Differs in having somewhat smaller eyes, not quite so close together, antennae shorter with shorter apical joint, elytra and abdomen more convex, and legs shorter with four front tibiae straighter.

Hab.—Northern Queensland (Blackburn's collection). Type, I. 6167.

With parentheses-like markings on the elytra, very different to those of any species previously recorded from Australia, and exactly alike on the three specimens under examination; the mark on each elytron commences at the basal third, and ends slightly beyond the middle, on the left it appears much like a C (and, of course, reversed on the right); there is also a small infuscate spot on each elytron near the apex. There is a feeble swelling on each elytron near the suture, and a shallow depression between the swelling and the shoulder; on the males they are fairly distinct, but on the female they are scarcely traceable.

XYLOPHILUS PACHYMERUS, n. sp.

♂. Flavous; head and parts of under-surface with a reddish tinge, suture and parts of sides of elytra infuscated and each elytron with two black spots, metasternum and part of hind femora deeply infuscated. Moderately clothed with whitish pubescence.

Head shining and with small and not very dense punctures. *Eyes* large, close together, and lightly notched in front. *Antennae* rather long, second joint short, third to tenth subcylindrical, eleventh about as long as ninth and tenth combined, slightly dilated to middle and then narrowed to apex. *Prothorax* rather small and lightly transverse, with a

vague median line and without distinct lateral impressions; with dense and sharply-defined but rather small punctures. *Elytra* much wider than prothorax, almost parallel-sided from shoulders to near apex; with dense and sharply-defined punctures throughout, smaller posteriorly than elsewhere, and larger on a shallow oblique impression (commencing on each elytron at the base, near the shoulder, and ending near the middle at the basal fourth). *Legs* rather long; hind femora dilated and almost twice as thick as the middle pair; front tibiae lightly curved. Length, $2\frac{3}{4}$ mm.

Hab.—Queensland: Mount Tambourine (A. M. Lea). Type (unique), I. 6170.

The hind femora should be distinctive, so the type has been described, even although its hind tibiae and abdomen are missing. The elytral spots are somewhat obliquely placed and subelliptic in shape; the first commences at the base near the shoulder and ends at the basal third, and the second is almost median. The distance between the eyes at their nearest point is slightly more than the thickness of the basal antennal joint.

XYLOPHILUS OBLIQUIFASCIATUS, n. sp.

♂. Head black, prothorax and most of under-surface reddish, elytra flavous with black and infusate markings, appendages flavous but hind femora partly infuscated. Moderately clothed with whitish pubescence.

Head with small and rather dense punctures. Eyes very large and almost touching in front, lightly notched. Antennae rather long, second joint subglobular, third subcylindrical and slightly longer than wide, tenth feebly dilated to apex and slightly transverse, the intervening joints very gradually altering, eleventh slightly longer than ninth and tenth combined, feebly dilated from base to middle, and then narrowed to tip. *Prothorax* lightly transverse, almost parallel-sided from base to near apex; with dense and sharply-defined but rather small punctures. *Elytra* much wider than prothorax, parallel-sided from shoulders to near apex, with a shallow depression on each side of base near shoulder; punctures dense, sharply defined, and of moderate size, but becoming small posteriorly. *Legs* moderately long; hind femora rather stout; hind tibiae rather stouter than the middle ones, but no wider at apex than at middle, front pair lightly bisinuate on lower surface. Length, $2-2\frac{1}{2}$ mm.

♀. Differs in having the eyes smaller and not so close together, antennae with all the joints except the second, shorter; abdomen more convex and legs shorter.

Hab.—Northern Queensland (Blackburn's collection).
Type, I. 6174.

Allied to *undatus*, but antennae longer and otherwise different, elytra with infuscate markings near tip and scutellum, and the median fascia of all four specimens before me not the same as on all the thirteen of *undatus*. There is a conspicuous black median fascia on the elytra, oblique on each side, touching the suture (where it is narrowest) almost at the exact middle, and at the sides (where it is considerably dilated) nearer the base; on two specimens it is continued as a lateral infuscation almost to the base; the suture is narrowly infuscated; the infuscation semicircularly or subtriangularly dilated at the base (so as to include the scutellum), and slightly dilated (so as to form a small sutural spot) near the apex. The distance between the eyes of the female is about equal to the length of the first antennal joint, in the male it is much less. The pronotum has three very vague depressions at the base, the median one being all that is left of a median line, but on one specimen there is another remnant of it at the apex.

XYLOPHILUS FLAVICOLLIS, n. sp.

♂. Flavous; elytra, mesosternum, metasternum, and abdomen blackish-brown; antennae (two or three basal joints excepted) deeply infuscated. Clothed with extremely short, indistinct pubescence.

Head with numerous minute punctures. Eyes large and prominent, fairly close together at their nearest point, lightly notched in front. Antennae rather long and thin, second joint slightly smaller than third, eleventh subovate, about as long as ninth and tenth combined. *Prothorax* rather small and lightly transverse, with a feeble transverse median impression, with two small but distinct subcontiguous impressions at base; with fairly dense, partially-concealed punctures. *Elytra* much wider than prothorax, parallel-sided to near apex, with a vague swelling on each side of scutellum; punctures dense and sharply defined but not very large about base, becoming much smaller posteriorly. *Legs* moderately long; hind tibiae conspicuously dilated to and notched at apex. Length, $1\frac{3}{4}$ -2 mm.

♀. Differs in having eyes less prominent and not so close together, antennae shorter, with second joint slightly stouter than third (but not longer), prothorax more transverse, elytra somewhat wider, abdomen more convex, and legs somewhat shorter with hind tibiae not quite so wide at apex.

Hab.—Queensland: Mount Tambourine; New South Wales: Forest Reefs and National Park (A. M. Lea). Type, I. 6166.

In general appearance much like *eucalypti*, but narrower, antennae distinctly longer (in both sexes) and darker, eyes larger (in both sexes), elytral punctures distinctly larger and scutellum flavous. Three specimens (two males and one female) have the head very slightly darker than the prothorax, and the basal joints of the antennae conspicuously paler than the following ones; but a second female has the head almost as dark as the elytra, the antennae entirely dark, and the hind legs infuscated; it is also slightly larger than the others, and has some longer hairs scattered about on the elytra. The distance between the eyes of the male at their nearest is about equal to the length of the first antennal joint; in the female it is about equal to that of the three basal joints.

XYLOPHILUS FLAVOCASTANEUS, n. sp.

♂. Flavo-castaneous, parts of elytra paler. Clothed with very short, ashen pubescence.

Head with punctures normally concealed. Eyes prominent, moderately separated, scarcely notched. Antennae moderately long and rather thin, second joint slightly stouter than third but no longer, eleventh slightly wider than tenth, and about as long as ninth and tenth combined. *Prothorax* about as long as wide, without distinct impressions and with punctures partially concealed. *Elytra* distinctly wider than prothorax but not much wider than head; with dense punctures, partially concealed by clothing, and becoming small posteriorly. *Legs* rather long; front trochanters acutely spinose; hind femora stout, with a conspicuous abruptly-terminated fringe on lower surface; hind tibiae thin at base, rather strongly dilated to near apex, and then slightly narrowed to tip, front pair with a short wide flange on one side of apex. Length, $1\frac{1}{2}$ - $1\frac{3}{4}$ mm.

Hab.—Northern Queensland (Blackburn's collection), Mount Tambourine; New South Wales: National Park (A. M. Lea). Type, I. 6171.

Allied to *mundus*, but narrower, more convex, and elytral markings, clothing, and legs different. The paler markings on the elytra are due partly to the colour of the derm itself and partly to its clothing, and are less distinct on the specimens (including the type) from the far north than the others; on the type they form two fasciae: the first just before the middle, interrupted at the suture and irregular about the shoulders, the second just beyond the middle and

also interrupted at the suture; on the National Park specimen the paler markings are more extended, leaving darker parts as follows: a blotch about scutellum, a well-defined median fascia, and a less sharply-defined subapical one. There are four males under examination.

XYLOPHILUS RUFOHUMERALIS, n. sp.

Black; shoulders, antennae (club excepted), palpi, and legs more or less reddish. With very short, ashen pubescence.

Head almost impunctate. Eyes large, prominent, not very close together, and lightly notched. Antennae thin and moderately long, second joint subglobular, slightly shorter than second, eleventh almost as long as ninth and tenth combined, apex pointed. *Prothorax* moderately transverse, sides feebly dilated from base to near apex and then abruptly narrowed, across middle with a shallow depression but more conspicuously impressed on sides, near base with two small conspicuous foveae, separated by a shining median line; with rather small, irregularly-distributed punctures; but crowded in the impressed parts. *Elytra* much wider than prothorax, feebly dilated to beyond the middle, with a feeble swelling on each side of scutellum at base, and a shallow depression behind each swelling; punctures dense and rather small but sharply defined about base, becoming very small posteriorly. *Legs* rather long and thin. Length, 2 mm.

Hab.—Queensland: Mount Tambourine (A. M. Lea). Type (unique), I. 6175.

Structurally close to *impressicollis*, but shoulders conspicuously reddish; *humeralis* (Lea, *nec* Pic) is a smaller species, with pale head and prothorax and coarser punctures. The reddish mark on each shoulder is about half the size of the head, the apical part of the elytra is obscurely diluted with red, the hind femora are infuscated (the other parts of the hind legs are missing); the three apical joints of the antennae are infuscated, but only the apical one conspicuously so. The distance between the eyes at their nearest point is slightly greater than the length of the basal antennal joint. The type appears to be a female.

XYLOPHILUS POECILOPTERUS, n. sp.

♂. Brownish-black; antennae, palpi, and legs (the four hind femora infuscated) flavo-testaceous. Clothed with short and extremely short, ashen or whitish pubescence.

Head moderately convex between eyes; with small, normally-concealed punctures. Eyes lateral, prominent, rather widely separated and very lightly notched. Antennae rather

long and thin, second joint subglobular, slightly shorter than third but somewhat wider, tenth very closely applied to eleventh and with it forming a small club. *Prothorax* about as long as wide, sides feebly dilated to near apex and then suddenly narrowed; with a shallow depression on each side about middle and another in middle of base; punctures dense but partially concealed. *Elytra* flat and rather long, almost twice the width of prothorax, parallel-sided to near apex, a shallow depression traversing the suture at basal fourth; the punctures there dense and distinct, but smaller and more or less concealed elsewhere. *Legs* rather long and thin; hind femora lightly grooved and with a short fringe of golden pubescence; hind tibiae no wider at apex than in middle. Length, 2 mm.

Hab.—Queensland: Innisfail (A. A. Girault). Type (unique), I. 6198.

In general appearance approaching some of the depressed species of *Anthicus*, but with the suture between the two basal segments of abdomen distinct only at sides, and hind femora with the curious clothing of several other species of *Xylophilus*. The upper-surface at first glance appears to have a kind of bloom, but this is really due to extremely minute pubescence, amongst which is mixed the ordinary short pubescence of the genus.

XYLOPHILUS MICROPS, n. sp.

♂. Blackish-brown; antennae (lightly infuscated about apex), palpi, legs (hind femora infuscated) and two elytral fasciae paler. With very fine, ashen pubescence.

Head with small, dense punctures. Eyes prominent but (for the genus) rather small and distant. Antennae rather long and thin, second joint subglobular, slightly shorter and stouter than third, ninth and tenth slightly dilated and, with the eleventh, forming a loose club. *Prothorax* slightly wider than long, sides gently rounded and wider near apex than elsewhere; punctures dense, sharply defined, and rather small; with two feeble medio-basal impressions. *Elytra* rather narrow and parallel-sided, scarcely wider than widest part of prothorax, basal impressions scarcely traceable; punctures slightly larger than on prothorax, but becoming smaller posteriorly. *Legs* rather long; hind femora stout, with a conspicuous abruptly-terminated fringe on lower surface; hind tibiae with apical half wider than basal half, but not wider at apex than near same. Length, $1\frac{1}{4}$ mm.

Hab.—Queensland: Mount Tambourine (A. M. Lea). Type (unique), I. 6177.

With the general outlines of *flavocastaneus*, but much darker, punctures much more conspicuous, and elytral fasciae in somewhat different positions: the first is oblique from each shoulder to the suture (with the scutellar region infuscated), and the second is at the apical third, not quite touching the sides or suture. It is apparently closer to *alpicola* than to any other described species, but is narrower, more parallel-sided and darker, with very different markings; from *mundus* it differs in being narrower and more convex, with different markings and pubescence. I have been unable to see the front legs clearly, but the middle tibiae are somewhat sinuous near apex. Each eye, as seen from directly in front, occupies only about one-fifth of the width of head.

XYLOPHILUS DOLICHODERES, n. sp.

♂. Flavous, with markings varying from light brown to black. Clothed with very short pubescence, varying from white to brown.

Head wide; punctures partially concealed. Eyes large, prominent, not very close together, and feebly notched. Antennae rather long and thin, second joint small but slightly longer and thicker than third, fourth-tenth subequal in length, eleventh irregularly subovate, not as long as ninth and tenth combined. *Prothorax* slightly longer than wide, sides feebly dilated from base to near apex, and then strongly narrowed; with dense but partially-concealed punctures; with two subcontiguous, small, medio-basal impressions. *Elytra* depressed, much wider than prothorax at base, sides gently but distinctly dilated to beyond the middle, with a shallow but fairly long depression on each, commencing at base near the shoulder; with dense and rather small punctures, becoming still smaller posteriorly. *Legs* rather long and thin; hind femora moderately stout, with a short sub-basal fringe on lower surface; hind tibiae rather thin (but stouter than the others), no wider at apex than in middle. Length, 2 mm.

Hab.—Northern Queensland (Blackburn's collection). Type (unique), I. 6199.

Structurally a distinct species; but the colours are probably variable. The head and prothorax are of a rather deep red, with the sides of the prothorax black, but appearing slaty-grey on account of the pubescence; the elytra are flavous but with irregular light brown markings occupying most of the basal two-thirds, the suture close to the scutellum is blackish, near the suture on the basal two-thirds there are some irregular patches of pale pubescence; the under-surface, hind femora, and base of hind tibiae are blackish,

the rest of the legs, the antennae, and palpi are conspicuously flavous. The pubescence causes part of the upper-surface to appear to have a kind of "bloom." The distance between the eyes at their nearest point is slightly more than the length of the basal antennal joint. The elytra at their widest are more than twice the width of the prothorax.

XYLOPHILUS BRACHYDERES, n. sp.

Of a dingy light brownish-red, palpi and most of legs paler; head, an elytral fascia, abdomen (wholly or in part), and hind femora more or less deeply infuscated. Densely clothed with very short, pale pubescence.

Head strongly convex; with dense, small, and partially-concealed punctures. Eyes prominent, lightly notched, widely separated, and (for the genus) small. Antennae rather short, second joint subglobular and slightly shorter than third, fourth-tenth each transverse and slightly dilated to apex, eleventh very little wider than tenth, and shorter than ninth and tenth combined. *Prothorax* strongly transverse, sides lightly dilated to near apex, and then suddenly narrowed, base very lightly trisinate, with two shallow depressions near middle of base; punctures very dense but partially concealed by clothing. *Elytra* distinctly wider than base of prothorax, but at base not much wider than widest part of same, sides lightly but distinctly dilated to beyond the middle; punctures dense and rather sharply defined (but partially obscured by pubescence) about base, but becoming very small posteriorly. *Legs* rather long and thin. Length, $1.1\frac{1}{4}$ mm.

Hab.—Queensland: Rockhampton, to light (A. M. Lea), Dalby (Mrs. F. H. Hobler), Helidon (C. J. Wild, in Queensland Museum); New South Wales: Richmond River (A. J. Coates), Sydney (C. Gibbons). Type, I. 6168.

A small dumpy species, structurally closer perhaps to *crassicornis* than to any other Australian species, but with very different colours. The male differs from the female in having slightly larger eyes, antennae somewhat longer, elytra less dilated posteriorly, abdomen less convex, and legs distinctly longer; the hind tibiae are rather thin and no wider at apex than in middle. The elytral fascia touches the sides slightly in advance of the middle, but touches the suture almost at the exact middle, and is subtriangularly continued along the suture half-way to the apex; although not very dark it is quite distinct on all the (six) specimens under examination; the vicinity of the scutellum is sometimes lightly infuscated. The greatest width of the prothorax is almost

equal to that of the head; the elytra are without sub-basal depressions.

A specimen from the Swan River appears to belong to the species, but has the elytral fascia much less defined and not traceable to the suture; with the under-surface and legs entirely pale.

XYLOPHILUS ANTHICICEPS, n. sp.

♂. Of a dingy castaneous-red, with black or infusate markings. Densely clothed with short, pale pubescence.

Head elongate; with dense, partially-concealed punctures. Eyes prominent, lightly notched, rather distant from each other and from the base. *Antennae* moderately long, second joint subglobular, slightly shorter and stouter than third, eleventh irregularly subovate, slightly shorter than ninth and tenth combined. *Prothorax* about as long as wide, sides feebly dilated from base to near apex, and then suddenly narrowed, with a small semidouble medio-basal impression, punctures much as on head. *Elytra* much wider than prothorax at base, sides lightly but distinctly dilated to beyond the middle; with dense and sharply-defined but not very large punctures about base, becoming smaller posteriorly. *Legs* rather long and thin; hind femora rather stout; hind tibiae no wider at apex than in middle. Length, 2 mm.

Hab.—Northern Queensland (Blackburn's collection). Type (unique), I. 6176.

The markings are not sharply defined and on the basal two-thirds of elytra are somewhat as in *mediofasciatus*, but structurally and in colours elsewhere the two species are very different. In general appearance, more especially about the head, it rather strongly resembles many species of *Anthicus*, but the suture between the two basal segments of abdomen is distinct only at the sides, and the basal joint of the hind tarsi is lightly curved and much longer than the rest combined. The head and prothorax are of a very dingy red, and the colour is partly obscured by the clothing, the sides of the prothorax are also infuscated; the elytra are mostly black, with each shoulder reddish; there is also a very obscurely reddish patch (large and very ill-defined) on the apical slope; the three basal joints of the antennae are partly infuscated, the three apical ones are black, the others are of a rather bright red; the under-surface and hind femora are blackish. The distance between the eyes is about equal to that between each and the base, and about equal to the combined length of the two basal joints of antennae. The elytra at their widest are more than twice the width of the head; and the sub-basal impressions are very feeble.

XYLOPHILUS MEDIOFASCIATUS, n. sp.

Of a dingy reddish-brown; elytra variegated, appendages flavous. Densely clothed with very short, ashen pubescence.

Head with small, dense, partially-concealed punctures. Eyes large, prominent, lightly notched, and fairly close together in front. Antennae moderately long, second joint short, slightly shorter than third but no thinner, the following ones very lightly serrated, eleventh subovate, almost as long as ninth and tenth combined. *Prothorax* almost as long as wide, slightly wider near apex than elsewhere; with dense and small, partially-concealed punctures; with a vague impression across middle, and two small subconjoined impressions in middle of base. *Elytra* flat, distinctly wider than prothorax, almost parallel-sided to near apex, with a shallow depression on each side of base near shoulder; punctures dense, rather small and partially concealed, becoming very small posteriorly. *Legs* rather long; all the tibiae thin. Length, 2 mm.

Hab.—New South Wales: Sydney (A. M. Lea), unique.

The sex of the type is doubtful; it is not very striking in general appearance, but I know nothing at all close to it. The elytra are of three shades of colour, but the shades not abruptly limited, although quite distinct: commencing on each shoulder and triangularly dilated to about the basal third the colour is much the same as that of the antennae, across the middle is a wide fascia coloured as the prothorax, between this and the subhumeral patches the colour is slaty-grey, the part beyond the fascia (about two-fifths of the apex) is coloured as the shoulders. The distance between the eyes at their nearest approach is about equal to the length of the basal antennal joint.

XYLOPHILUS CNEMOPACHYS, n. sp.

♂. Flavous; head more or less deeply infuscated, sometimes black. Rather densely clothed with very short pubescence.

Head strongly transverse; with dense, partially-concealed punctures. Eyes large and rather close together, feebly notched. Antennae rather short, second joint subglobular, stouter and slightly longer than third, third and fourth small and equal, fifth-tenth slightly larger, subequal and all transverse, eleventh subovate, scarcely wider than tenth but distinctly longer. *Prothorax* rather lightly transverse, slightly wider near apex than elsewhere; with very dense, partially-concealed punctures; with four depressions at base: a small one on each side, and two slightly larger subconjoined

ones in middle. *Elytra* rather long, much wider than prothorax, parallel-sided to near apex, with a shallow depression on each side of a feeble subscutellar elevation; with dense and not very large but sharply-defined punctures about base, becoming smaller and partially concealed posteriorly. Tip of *abdomen* bifoveate. *Legs* long; hind tibiae strongly dilated from each end to middle. Length, $1\frac{3}{4}$ -2 mm.

♀. Differs in being slightly wider, eyes smaller and not so close together, antennae slightly shorter, hind tibiae evenly dilated from base to apex, and notched at apex, and in the abdomen.

Hab.—Queensland: Townsville (Blackburn's collection and H. H. D. Griffith, from F. P. Dodd). Type, I. 6163.

A depressed species readily distinguished from all other members of the genus by the greatly thickened hind tibiae of the male; the small fourth joint of antennae is also rather peculiar. On an occasional specimen there is a slight infuscation on the disc of the pronotum. The distance between the eyes of the male at their nearest point is less than the length of the basal joint of antennae; in the female the distance is slightly more. At first glance the abdomen of the male along the middle appears to be composed of but three segments, owing to the complete obliteration of the suture between the two basal segments across the middle, and to the fourth being much shorter than the third; on the female, however, the third and fourth are of even length, and the fifth has a vague median depression only.

XYLOPHILUS DIVISUS, n. sp.

♂. Flavous; head sometimes rather lightly infuscated. Moderately densely clothed with (for the genus) not very short pubescence.

Head with small and rather sparse punctures. Eyes large, close together in front, lightly notched. Antennae moderately long, second and third joints small and subequal, the following ones not much larger, eleventh almost as long as ninth and tenth combined. *Prothorax* rather small; with dense and moderately small but sharply-defined punctures; with a vague depression on each side of base. *Elytra* moderately convex, much wider than prothorax, parallel-sided to beyond the middle, subscutellar elevations extremely feeble; punctures rather denser and more sharply defined (although not larger) than on prothorax, becoming smaller posteriorly. Middle *tibiae* distinctly dilated from base to beyond the middle and then rather abruptly narrowed to apex; hind pair rather thin, no wider at apex than in middle. Length, $1\frac{1}{2}$ -2 mm.

♀. Differs in having the eyes smaller and not so close together, antennae somewhat shorter, abdomen more convex, legs shorter and middle tibiae simple.

Hab.—Northern Queensland (Blackburn's collection). Type, I. 6180.

A small pale species, with peculiar middle tibiae in the male; the hind femora are of two shades of colour, sharply contrasted and longitudinally divided along the middle, on some males the darker shade is of a rather dark brown; on the females the division is much less distinct. The distance between the eyes of the male at their nearest point is less than the length of the basal antennal joint. The pronotum on some specimens has remnants of a vague median line, and the basal depressions, when present, are feeble and ill defined.

XYLOPHILUS DECIPIENS, n. sp.

♂. Flavous; head slightly darker than elsewhere. Very finely pubescent.

Head with small and rather numerous punctures. Eyes large and rather close together. Antennae moderately long, second joint small, third to tenth subequal, eleventh almost as long as ninth and tenth combined, lightly dilated to beyond the middle and then strongly narrowed on one side to apex. *Prothorax* rather strongly transverse; with dense and rather small, but sharply-defined punctures; with several vague depressions. *Elytra* distinctly wider than prothorax, and with somewhat similar punctures, but becoming smaller posteriorly. *Metasternum* widely and distinctly depressed in middle, and with distinct punctures there. Middle *tibiae* lightly curved and rather thick throughout, hind tibiae thin, lightly curved, apical half of even width, except that it is slightly narrowed to tip; hind femora rather stout. Length, $1\frac{1}{4}$ mm.

Hab.—Queensland: Hamilton (C. J. Wild). Type (unique), I. 6394.

In general appearance strikingly close to the preceding species, with which I had at one time confused it, but readily distinguished by the middle tibiae of the male; these on the present species are decidedly thick, but not dilated to a special point, and are *hollow* on the lower surface, the hind legs are also somewhat different, the eyes are not quite so close together, and the metasternum is different; on that species its median depression is considerably narrower, shorter, and almost impunctate.

XYLOPHILUS NIGRICLAVUS, n. sp.

♂. Of a rather dingy flavous; three apical joints of antennae blackish. With very short, pale pubescence.

Head with small, partially-concealed punctures. Eyes large, close together in front, lightly notched. *Antennae* rather long and thin, second joint stouter and distinctly longer than third, third about half the length of fourth, eleventh irregularly ovate, wider than tenth and distinctly shorter than ninth and tenth combined. *Prothorax* rather small; with dense, partially-concealed punctures; with a feeble transverse median impression, and two small, subconjoined, medio-basal ones. *Elytra* much wider than prothorax, almost parallel-sided to near apex; with dense and sharply-defined, but not very large punctures, becoming smaller posteriorly; with a feeble swelling on each near scutellum, and a shallow depression behind same. *Legs* moderately long; hind tibiae dilated to and notched at tip. Length, $1\frac{1}{2}$ - $1\frac{2}{3}$ mm.

♀. Differs in having eyes not quite so close together, antennae shorter, elytra not quite so parallel-sided, abdomen more convex, median impression of mesosternum less sharply defined, and legs shorter, with hind tibiae less conspicuously dilated at apex.

Hab.—Northern Queensland (Blackburn's collection): Innisfail (A. A. Girault). Type, I. 6181.

Longer in proportion than *divisus*, and antennae tipped with black. The distance separating the eyes of the male is less than the basal joint of antennae; of these the third joint is unusually small.

XYLOPHILUS INTERIORIS, n. sp.

Flavous; head infuscated. Rather densely clothed with short, whitish pubescence.

Head with dense and (where not concealed by pubescence) rather sharply-defined punctures. Eyes large, fairly close together in front, lightly notched. *Antennae* not very long, second-tenth joints subequal in width, the second and third slightly smaller than the others, eleventh very little wider but distinctly longer than tenth. *Prothorax* rather strongly transverse; with dense and rather small punctures; with a feeble transverse impression at middle, and two small subconjoined medio-basal ones. *Elytra* much wider than prothorax, parallel-sided to near apex, with a vague longitudinal depression near each shoulder; with dense and small punctures, sharply defined only on basal third. *Legs* rather long; hind tibiae gently dilated to and notched at apex. Length, $2\frac{1}{4}$ mm.

Hab.—South Australia: Oodnadatta (Blackburn's collection). Type (unique), I. 6178.

In general appearance like a large specimen of *cnemopachys*, but differs in being larger and less depressed, in the prothorax, etc.; in addition it differs from the male of that species in its very different legs, and from the female in its larger eyes, closer together at their nearest, where the distance between them is equal to the basal antennal joint; the hind tibiae also have the apex more oblique than on that species. From *divisus* it differs in being larger, more depressed, and with much finer punctures, and in the head, antennae, and legs. The type is probably a female.

XYLOPHILUS FUSCIVENTIS, n. sp.

Of a dingy reddish-testaceous, abdomen darker; elytra, antennae (somewhat infuscated towards apex), palpi, and legs of a rather dingy flavous. With sparse and very short, pale pubescence.

Head widely transverse; with dense and small, partially-concealed punctures. Eyes large, prominent, and very lightly notched in front, not very close together. Antennae rather thin, second joint subglobular, slightly larger than third, third about half the length of fourth, eleventh slightly longer and wider than tenth. *Prothorax* distinctly transverse, parallel-sided to near apex; with dense and rather sharply-defined punctures, with some vague depressions across middle and a more distinct one on each side of middle of base. Elytra much wider than prothorax, very feebly dilated to beyond the middle, basal depression near each shoulder very feeble; punctures about base slightly larger and more distinct than on prothorax, becoming smaller posteriorly. *Legs* rather long; hind tibiae dilated to and notched at apex. Length, $1\frac{2}{3}$ mm.

Hab.—Queensland: Bluff (A. M. Lea). Type (unique), I. 6182.

In build close to *nigriclavus*, but without a post-scutellar depression, prothorax larger, antennae not so thin and with the club paler, and the abdomen darker. From *cnemopachys* it differs in having narrower and less depressed elytra, with coarser punctures, and in the antennae and abdomen. From *divisus* it is distinct by the medio-basal impressions of the pronotum. I have not been able to see the front legs clearly, but as the middle tibiae are thin and lightly curved the type is probably a male.

XYLOPHILUS LATEROFUSCUS, n. sp.

♂. Of a dingy reddish-testaceous, head and parts of under-surface darker, sides of elytra lightly infuscated about

middle, parts of legs somewhat flavous. Densely clothed with very short, pale pubescence.

Head rather strongly transverse, punctures indistinct. Eyes large, close together in front, lightly notched. Antennae rather long and thin, second joint subglobular, slightly wider and shorter than third, third-tenth subequal, eleventh slightly longer and wider than tenth. *Prothorax* distinctly transverse; with dense, more or less concealed punctures; with a conspicuous depression on each side of middle of base. *Elytra* much wider than prothorax, parallel-sided to near apex; with dense and rather small, partially-concealed punctures, but more distinct than elsewhere on and about a feeble subscutellar swelling, and a shallow depression near same on each elytron. *Legs* rather long; hind tibiae no wider at tip than near same. Length, $1\frac{1}{4}$ - $1\frac{1}{2}$ mm.

♀. Differs in having the head somewhat smaller, eyes not so close together (although fairly close), abdomen more convex, and legs slightly and antennae conspicuously shorter.

Hab.—Northern Queensland (Blackburn's collection): Cairns district (A. M. Lea). Type, I. 6188.

The elytral markings at first glance are vaguely suggestive of those of *brachyderes*, but they are lateral only, the general shape is more parallel-sided and the hind femora are dark; a female from Cairns is rather paler than the type, but with the head darker, the lateral markings of the elytra more distinct, and the legs uniformly pale. The pubescence is extremely short, but is so dense that the finer sculpture is almost concealed, on the upper-surface it is almost ashen (on the elytra it occasionally appears to be subvittate), but on the under-surface it is whiter. On one female from Cairns the dark lateral markings are more extended, the elytra are non-vittate, and the sterna are almost blood-red; its abdomen is missing. The depressions at the base of the pronotum from some directions appear semicircular and much larger than from others; whilst from some directions, especially on the females, each appears to be divided into two. The distance between the eyes of the male at their closest is much less than the length of the basal antennal joint; in the female it is almost equal to the length of that joint.

XYLOPHILUS TRICHOMERUS, n. sp.

Of a dingy reddish-testaceous, elytra and appendages not much paler. Clothed with very short pubescence, more distinct on under-surface than on upper.

Head rather convex; with dense, but partially-concealed punctures. Eyes widely separated, prominent, and lightly notched. Antennae moderately long, second joint subglobular

and rather small, third to tenth subequal in length but feebly increasing in width, eleventh slightly wider than tenth, and almost as long as ninth and tenth combined. *Prothorax* lightly transverse, sides slightly dilated from base to near apex, and then suddenly narrowed, with a shallow depression across base and a still more feeble one across middle, but becoming fairly strong on sides; with dense, partially-concealed punctures, more distinct on sides than elsewhere. *Elytra* much wider than prothorax, parallel-sided to near apex; with dense and rather sharply-defined punctures on and about a feeble subscutellar elevation, and a feeble depression near same on each elytron, but becoming much smaller posteriorly. *Legs* moderately long; hind femora with a short but distinct fringe on lower surface; hind tibiae rather thin, no wider at apex than in middle. Length, $2\frac{1}{4}$ mm.

Hab.—Queensland: Cairns district (A. M. Lea). Type (unique), I. 6184.

A dingy uniformly-coloured species, with eyes unusually small for the genus, the distance between them at their closest is about equal to the length of the four basal joints of antennae. The peculiar clothing of the hind femora seems to be a masculine character, but the abdomen is more convex than is usual in males, and from its tip there is protruding a long, thin, soft appendage that certainly appears to be an ovipositor.

XYLOPHILUS RUFOBRUNNEUS, n. sp.

Of a dingy reddish-brown, appendages somewhat paler, under-surface almost black. Densely clothed with extremely short, dingy pubescence.

Head with small, dense, partially-concealed punctures. Eyes prominent, widely separated, lightly notched and (for the genus) decidedly small. Antennae short, eleventh joint wider than tenth and about as long as ninth and tenth combined. *Prothorax* strongly transverse, sides gently rounded and, at widest, fully the width of head across eyes, with a shallow oblique impression on each side of middle of base, and a still more feeble and smaller one on each side; punctures dense and partially concealed. *Elytra* not much wider than prothorax, sides feebly rounded, base without distinct impressions; with dense and sharply-defined, but rather small punctures about base, becoming much smaller posteriorly. *Legs* rather long and thin; hind tibiae dilated to and notched at tip. Length, 2 mm.

Hab.—South Australia (Blackburn's collection). Type (unique), I. 6179.

A very dingy species with (for the genus) unusually small and distant eyes. The medio-basal depressions of the

pronotum are shallow but very distinct from some directions, but the others are invisible from most. There is a short shining process protruding from the abdomen, but as it has two hair-like apical appendages I presume the type is a female.

XYLOPHILUS ACACIAE, n. sp.

Piceous-brown; head and abdomen sometimes blackish, basal joints of antennae, palpi, and legs rather obscurely flavous. Closely covered with extremely short, ashen pubescence, becoming white on parts of under-surface.

Head transverse; with minute, concealed punctures. Eyes large, prominent, lightly notched and not very close together. Antennae moderately long, second joint small and subglobular, eleventh wider than tenth, and almost as long as ninth and tenth combined. *Prothorax* rather small, very little wider than long; punctures more or less concealed; with three conspicuous impressions: two suboblique ones separated by a narrow line at base, and a longitudinal one in middle; a feeble impression on each side of base. *Elytra* much wider than prothorax, parallel-sided to near apex, with a feeble impression on each side close to a very feeble subscutellar swelling; punctures fairly distinct on basal half, but feeble elsewhere. *Legs* rather long and thin; hind tibiae very little wider at apex than near same. Length $1\frac{3}{4}$ -2 mm.

♀. Differs in having smaller and more widely-separated eyes, shorter antennae, prothorax rather more transverse, abdomen less convex, and legs shorter.

Hab.—Tasmania: Mole Creek, beaten in numbers from "Blackwood" (*Acacia melanoxydon*), Swansea; New South Wales: National Park, Wollongong (A. M. Lea); Queensland (Blackburn's collection, from C. French), Mount Tambourine (Lea). Type, I. 6192.

A small dingy species with the pubescence so extremely fine and close together that the upper-surface appears to have a kind of "bloom" (present but to a less extent on the under-surface). In general appearance it is fairly close to *inconspicuus*, but the punctures are very much smaller, and there are many other differences. From most directions the parts adjacent to the three larger prothoracic depressions appear to form a conspicuous Y. The distance between the eyes of the male at their closest is about equal to the length of the two basal joints of antennae. The antennae are occasionally entirely pale, but usually have the basal joints paler than the others, the sterna are occasionally as dark as the abdomen, the hind femora are sometimes lightly infuscated. One specimen from Mole Creek, three from Wollongong, and the

specimen from the Blackburn collection have the prothorax and elytra testaceous; one female from the National Park has the shoulders obscurely diluted with red, and the elytral punctures rather larger than usual; the specimen from Mount Tambourine is an unusually small male.

PYROCHROIDAE.

Mr. Blair having removed *Lemodes* from the *Pyrochroidae* to the *Anthicidae* ⁽¹⁴⁾ and stated ⁽¹⁵⁾ that *Pseudolycus apicalis*, Macl., belongs to the group of *Oedemeridae* that includes *Techmessa* and *Pseudananca*, the family *Pyrochroidae* now contains no described Australian species.

MORDELLIDAE.

Having occasion to describe some insular species of this family, it appeared desirable to systematically examine all the specimens in the South Australian Museum, that institution having numerous unnamed specimens from the Blackburn collection and other sources, including an abundance of material from Mr. F. P. Dodd. Several Australian Museums were communicated with, and specimens were received for examination from the Queensland, Australian (including the type of *Mordellistena brunneipennis*), Macleay (including the types of seven species), and National Museums; some specimens from Mr. H. J. Carter's and my own collections were also examined.

In working out a family or group of beetles one naturally desires to make one's work as complete as possible; but in this family it is frequently desirable to leave unnamed many specimens, as the species are so closely allied in structure that markings must be relied upon to a quite disproportionate degree in comparison with other families; and the patterns being very variable in extent (due to partial absence in places and enlargements in others), although not, or to but a slight extent, in disposition, and liable to considerable alteration in appearance from a slight amount of abrasion, it frequently happens that, with long series, connecting forms quite clearly denote that specimens apparently quite distinct from others, are but the outside forms of particular species. Wide golden spots and bands become attenuated and silvery, or white; sharply-defined markings gradually encroach upon each other till many of their outlines are blurred, bands and zigzag markings break up into spots, some markings completely disappear but leave others quite sharply defined; old specimens are often considerably altered in appearance by grease, verdigris,

(14) Ann. and Mag. Nat. Hist., Feb., 1913, p. 207.

(15) L.c., March, 1914, p. 311.

and dust; grease frequently causes the entire disappearance of markings that, after treatment with chloroform or other grease-absorbing liquids, again become quite distinct. Specimens mounted on cards when wet, or with very watery gum, frequently also apparently lose their markings; and it is not always easy to restore them, as the amount of soaking and brushing necessary tends to abrade the pubescence; a slight amount of grease or dirt also may obscure the generic details on the hind legs of *Mordellistena* (especially of the dark species). In some specimens also the point of view, especially in relation to the pronotum, may make considerable apparent difference. A change from silvery (or white) to golden (or stramineous) is of no specific value, and seldom even of varietal; moreover, golden markings (with age or after lengthy immersion in liquids) frequently lose their gloss, and white markings under similar circumstances frequently become yellowish. On many species parts of the legs are reddish, but the amount of red is frequently liable to sexual and even individual variation. The shape of the pygidium is also liable to sexual alteration, and its apparent shape by the greater or less extent to which it is clasped by the abdomen. On most specimens the antennae are difficult to examine clearly, and even when so seen their apparent proportions alter with the point of view. Any worker at the family, with an abundance of material, is certain to have many specimens that might be referred to any of several species, hence it is desirable to leave such specimens unnamed (or at least queried); this is especially the case with the allies of *promiscua* and of *baldiensis*.

The number of species now known from Australia, although large, probably represents but a small proportion of the actual number existing, as many species appear to occur only on flowers on tops of tall trees (and it is this fact that makes the collection from Mr. Dodd of special interest). As yet very few species have been recorded from the Northern Territory, the interior, or the North-west, and it is unreasonable to suppose with species occurring in abundance elsewhere, that there are not many species also in those parts. They are attracted by flowers of almost every kind of plant (even of grasses and of everlastings), and on many kinds of flowers they frequently swarm in immense numbers, many species being often mixed together. The close general resemblance of the species to each other have probably caused many collectors to refrain from making special efforts to obtain them, and the lively habits and small size of many species have also, no doubt, contributed to their escaping capture by collectors.

The wide distribution of *most* of the species renders it desirable not to describe as new specimens from widely-separated localities if it is at all possible to connect them provisionally with previously-named species, but to put aside such specimens till the acquisition of more material either puts their distinctness beyond question, or allows the connecting forms to be noted.

In the male the palpi have the apical joint considerably larger than in the female, the antennae are usually slightly stouter, the front tibiae are usually longer, strongly curved or falcate, the front (and frequently the middle) tarsi more dilated, and the pygidium slightly more acute; but the sexual differences appear to be seldom of use to distinguish closely-allied species.

But three genera have been recorded from Australia, all of wide distribution; probably in the hands of a revisionist, having a world-wide collection available, some of our species would be referred to other genera, but at present it appears desirable to refer all the new ones here described to the three genera in question, which may be thus recognized:—

Pygidium short or moderately short, its tip truncate; scutellum wide, angularly cutting into each elytron at base	<i>Tomoxia</i>
Hind tibiae with from two to five oblique ridges...	<i>Mordellistena</i>
Pygidium long or moderately long, scutellum not angularly cutting into elytra, hind tibiae without oblique ridges	<i>Mordella</i>

Subsequent to Masters' Catalogue Australian species of the family have been described, or commented upon, as follows:—

Macleay: Proc. Linn. Soc. N.S. Wales, 1887, pp. 317-320.

Olliff: Mem. Aust. Mus., ii., 1889, p. 90.

Blackburn: Trans. Roy. Soc. S. Austr., 1891, p. 341;
1892, p. 46; 1893, pp. 136-138.

Champion: Trans. Ent. Soc. Lond., 1895, pp. 266-272;
1896, pp. 448, 449.

Lea: Proc. Linn. Soc. N.S. Wales, 1895, pp. 285-304;
1896, p. 295; 1904, pp. 95, 96; Trans. Ent. Soc.
Lond., 1902, pp. 1-9; Proc. Roy. Soc. Vic., 1907,
p. 168; 1913, p. 224.

With regard to the patterns given on the plates it is to be noted that these are drawn as if the suture was slightly curved; this was in consequence of the desirability of showing the humeral markings more clearly than if drawn directly from above; the point of view was obliquely from the side, so that the slight scutellar notch of many species apparently disappears. The patterns also are drawn as if the markings were solid and sharply defined; this they usually are, but

sometimes the white pubescence has a straggling appearance at the edges. The markings also are frequently different on the different sides of an individual.

The geographical distribution and synonymy are as follows:—

	Q'land.	N.S. Wales.	Vict.	Tas.	S. Austr.	W. Austr.	N.-W. Austr.	N. Terr.	
<i>Mordella adipata</i> , Lea	*		*						
<i>alphabetica</i> , Lea	*	*							
<i>auronotata</i> , Lea	*	*	*	*	*	*			Lord Howe Isld.
<i>australis</i> (Boi.), Lea									Stradbroke, King,
<i>albosignata</i> , Boh.									[and Kangaroo
<i>albosparsa</i> , Gemm.									Islands
<i>undosa</i> , Macl.									
<i>baldiensis</i> , Blackb.	*	*	*	*	*	*			Stradbroke and
<i>obliqua</i> , Waterh., n. pr. ...									[Rottnest Islds.
var. <i>alboscuteolata</i> , Lea ...									
var. <i>ignota</i> , Lea									
var. <i>inconspicua</i> , Lea									
var. <i>waterhousei</i> , Champ. ...									
<i>bella</i> , Waterh.	*	*	*	*	*	*			Stradbroke and
<i>blanda</i> , Lea	*								[Kangaroo Islds.
<i>brevis</i> , Lea				*		*			King and Garden
<i>calodema</i> , Lea		*							Islands
<i>calopasa</i> , Lea	*	*							
<i>caloptera</i> , Lea	*	*							
<i>cara</i> , Blackb.	*	*	*		*				Stradbroke Isld.
<i>caroli</i> , Lea		*							
<i>waterhousei</i> , Lea, n. pr. ...									
<i>chrysophora</i> , Lea		*							
<i>conspecta</i> , Lea	*								
<i>corvina</i> , Lea	*								
<i>cuneata</i> , Lea						*			
<i>distincta</i> , Lea		*	*	*					
<i>fulvonotata</i> , Champ., n. pr. ...	*	*	*						
<i>dumbrelli</i> , Lea	*	*	*		*				
<i>elegans</i> , Waterh.	*	*	*		*				
var. <i>festiva</i> , Lea									
<i>elongatula</i> , Macl.	*								Aru Island
<i>exilis</i> , Germ.			*	*	*	*			Central Australia
var. <i>obscurior</i> , Blackb. ...									
var. <i>rufimanus</i> , Blackb. ...									
<i>felix</i> , Waterh.	*	*	*	*					
<i>fuscipilis</i> , Champ.		*	*	*	*	*			King Island
<i>graphiptera</i> , Champ.		*	*	*	*	*			
<i>H-fasciata</i> , Lea	*	*			*				
<i>hamatilis</i> , Macl.	*	*	*	*	*				
<i>humeralis</i> , Waterh.	*	*	*	*	*				
<i>inornata</i> , Lea			*						
<i>inuitata</i> , Blackb.	*	*							

	Q'land.	N.S. Wales.	Vict.	Tas.	S. Austr.	W. Austr.	N.-W. Austr.	N. Terr.	
<i>Mordella</i> <i>iridea</i> , Lea	*								
<i>lepida</i> , Redt.	*	*		*	*	*			
<i>leucosticta</i> , Germ.	*	*	*	*	*	*			
<i>abdominalis</i> , Bless.	*	*	*	*	*	*			
<i>limbata</i> , Waterh.	*	*	*	*	*	*			King Island
var. <i>W-album</i> , Champ.	*	*							
<i>mastersi</i> , Lea	*								
<i>metasternalis</i> , Lea	*								
<i>mixta</i> , Boi.	*	* ?							
<i>multiguttata</i> , Waterh.	*	*							
<i>nigrans</i> , Maccl.	*								
<i>norfolcensis</i> , Lea	*								Norfolk Island
<i>notabilis</i> , Maccl.	*								
<i>notatipennis</i> , Lea	*								
9-maculata, Lea	* ?		*						
<i>obliquirufa</i> , Lea	*	*							
<i>obsoleta</i> , Lea	*	*							
18-maculata, Lea	*	*			*	*			
8-maculata, Maccl.	*								
<i>ornata</i> , Waterh.	*						*		
<i>ovalisticta</i> , Maccl.	*	*							
<i>pallida</i> , Lea	*	*		*					
<i>parva</i> , Champ.	*	*	*	*	*	*			
<i>promiscua</i> , Er.	*	*	*	*	*	*			Stradbroke, King,
<i>communis</i> , Waterh.									[Flinders, Kan-
var. <i>aemula</i> , Lea									garoo, Garden,
var. <i>fugitiva</i> , Lea									[and Rottnest
var. <i>raymondi</i> , Lea									Islands
var. <i>simillima</i> , Lea									
var. <i>trivialis</i> , Waterh.	*	*							
<i>pulchra</i> , Lea	*	*							
<i>pulverulenta</i> , Maccl.	*	*							
<i>maculatissima</i> , Blackb.	*	*							
<i>pygidialis</i> , Lea	*	*	*	*					Lord Howe Isld.
<i>pygmaea</i> , Champ.	*	*	*	*					
<i>uniformis</i> , Lea	*	*							
4-maculata, Lea	*	*	*	*					
14-maculata, Lea	*	*	*	*					Stradbroke Isld.
<i>ruficollis</i> , Waterh.	*	*	*	*					
<i>rufipes</i> , Lea	*	*			*				
<i>sericans</i> , Lea	*	*			*				
<i>subvittata</i> , Maccl.	*	*	*	*	*				
<i>sydneyana</i> , Blackb.	*	*	*	*	*				
var. <i>cairnsensis</i> , Lea					*				
<i>tarsalis</i> , Lea	*	*	*	*					New Holland
<i>tomentosa</i> , Boi.	*	*	*	*					
<i>tristis</i> , Lea	*	*	*	*		*			
V-aurea, Lea	*	*	*	*		*			
<i>verticordiae</i> , Lea	*	*	*	*		*			
var. <i>niveosuturalis</i> , Lea	*	*	*	*		*			

		Q'land.	N.S. Wales.	Vict.	Tas.	S. Austr.	W. Austr.	N.-W. Austr.	N. Terr.	
Mordella	V-fasciata, Lea	...	*	*	*					
	var. modesta, Lea	...								
	var. venusta, Lea	...								
	vitticollis, Lea	...	*							
	wiburdi, Lea	...	*							
Tomoxia	apicata, Lea	...	*	*	*	*	*	*	*	Stradbroke Isld.
	aterrima, Macl.	...	*							Stradbroke Isld.
	exoleta, Lea	...						*		
	flavicans, Waterh.	...	*							
	howensis, Lea	...								Lord Howe Isld.
	laticeps, Lea	...						*		
	maculicollis, Lea	...					*			
	melanura, Lea	...	*							
	melasoma, Lea	...	*							
	sexlineata, Lea	...	*							
Mordellistena	abaceta, Lea	...	*							
	aspera, Champ.	...	*						*(16)	
	atronitens, Lea	...	*	*	*	*	*		*	Magnetic Island
	austrina, Champ.	...	*							
	setipes, Lea	...	*							
	brunneipennis, Macl.	...	*							
	castigata, Lea	...	*	*						
	coelioxys, Lea	...	*							
	concinna, Lea	...	*							
	concolor, Lea	...	*			*	*			
	cuspidata, Macl.	...	*	*						
	flavicans, Macl.	...	*							
	fusca, Lea	...	*							
	fuscula, Lea	...	*	*	*	*	*			Lord Howe Isld.
	longipes, Lea	...	*	*	*	*	*			
	jucunda, Champ., n. pr.	...								
	melvillensis, Lea	...	*							Melville Island
	multilineata, Lea	...	*							
	obscuripennis, Macl.	...	*							
	pulcherrima, Lea	...	*						*	
	tibialis, Lea	...	*					*		
	trichura, Lea	...	*							

I am unacquainted with the following species:—

1. *Mordella lepida*, Redt. A minute species from New South Wales. Black, the derm with flavous markings including two spots on each elytron, the hind tibiae and tarsi black, but the rest of the legs flavous.

2. *Mordella mixta*, Fabr.: Syst. El., ii., p. 122; Boi.: Voy. "Ast.," p. 290. I have not seen the original description

(16) Adelaide River is in the Northern Territory.

of this species; but in Boisduval's the species is recorded from Nouvelle-Galles (in Gemminger and Harold it is recorded from Nova Cambria), no doubt New South Wales being meant, but New South Wales then (1835) included both Victoria and Queensland. His description is: "*Major, cinerea, thorace pubescente, linea dorsali lata maculaque utrinque atris; coleopteris basi cinereis, maculis quinque atris, fascia rufa.*" Presuming the dorsal line to be a longitudinal one, the only known large Australian species with such a line are *elongatula* and *conspecta*; in the former the median fascia of the elytra is sometimes conspicuously golden, but it is certainly not reddish; and in the latter it is seldom even golden. It would, however, be inadvisable to identify any species as *mixta* without additional particulars. It was omitted from Masters' Catalogue.

3. *Mordella ornata*, Waterh. A small species from North-western Australia, the two typical specimens not in close agreement and a third doubtfully associated with them. It appears to approach some forms of *bella* or of *limbata*.

4. *Mordella parva*, Champ. A minute species from Tasmania. Described from a single specimen "extremely like" *pygmaea*, but distinct mainly by the fourth joint of antennae being equal to the third, instead of twice as long.

5. *Mordella tomentosa*, Boi. To associate this name with any insect from the original description, "*Minor olivacea, holosericea, elytris apice nigris, subtus nigra.*" could be hardly more than a guess, and until the type can be examined and properly described I think the name should be regarded as one impossible of recognition. In Blackburn's collection two specimens of *bella* were identified as *tomentosa*, and the description agrees with several specimens of *bella* before me, although not of the typical form; also with many specimens of *limbata*, specimens of *Tomoxia apicata*, of *T. melanura*, and forms of other species. Its locality was given as New Holland.

6. *Tomoxia flavicans*, Waterh. Apparently close to *apicata*, but with a median as well as an apical portion of the elytra devoid of pale pubescence. Described as from the Clarence River.

7. *Mordellistena aspersa*, Champ. A single specimen described as from the Adelaide River (Northern Territory). Apparently very close to *austrina*, and with the same numbers of oblique ridges on the hind tibiae and two basal joints of tarsi; but the ridges of different lengths, the third joint apparently without any, and the colour and clothing somewhat different.

MORDELLA.

It does not appear to be possible, so far as the main genus is concerned, to prepare a table that could be implicitly relied upon, or that would be of even reasonable assistance towards the identification of our species; but I have apportioned the species into various divisions and groups, and the patterns given should be of some assistance. The divisions, etc., are as follows:—

Div. 1. Derm of prothorax and elytra not both entirely black.⁽¹⁷⁾

blanda, *calodema*, *caloptera*, *caroli*, *distincta*,
humeralis, *obliquirufa*, *pallida*, *4-maculata*,
ruficollis, *subvittata*, *V-fasciata*, *wiburdi*.

Div. 2. Derm of prothorax and elytra entirely black.

Group 1. Elytra with conspicuous pale clothing condensed into spots or fasciae.

Subg. 1. Species of large size.⁽¹⁸⁾

chrysophora, *conspecta*, *dumbrelli*,⁽¹⁹⁾ *elongatula*,
leucosticta, *multiguttata*, *notabilis*,
8-maculata, *ovalisticta*, *14-maculata*, *vitticollis*.

Subg. 2. Abdomen red.

pulchra.

Subg. 3. Of medium or small size and dermat of abdomen black.

adipata, *alphabetica*, *auronotata*, *australis*,
bella, *brevis*, *calopasa*,⁽²⁰⁾ *cara*, *elegans*, *felix*,
graphiptera, *hamatilis*, *iridea*, *metasternalis*,
norfolcensis,⁽²¹⁾ *notatipennis* *9-maculata*,⁽²²⁾
obsoleta, *18-maculata*,⁽²³⁾ *promiscua*, *pulverulenta*, *sydneyana*, *V-aurea*.

(17) On many of the black species with white markings on the elytra the shoulders are often diluted with red below the clothing, but in such cases the red is inconspicuous—for instance, nothing like as distinct as on *humeralis*—consequently these have not been regarded as belonging to Div. 1.

(18) In this group the prothoracic markings are usually also on a different plan to those of the smaller species.

(19) Some specimens of this species are no larger than the average size of *9-maculata*, but the prothoracic markings are those of the larger species.

(20) Some specimens of this species might be regarded as belonging to Div. 1.

(21) A variety of this species appears at first glance to belong to Group 3.

(22) Of rather large size for this subgroup, but much below the average size of those of Subg. 1.

(23) Although of small size the prothoracic markings of this species are more like those of Subg. 1.

Group 2. Elytra with two isolated black spots of clothing.

inusitata.

Group 3. Elytra with uniform pubescence, or if not uniform markings entirely lateral or sutural, never as pale spots or transverse fasciae.

baldiensis, corvina, cuneata, exilis, fuscipilis, inornata, mastersi, pygmaea, rufipes, sericans, tarsalis, tristis, verticordiae.

But the following species have forms belonging to more than one division or group:—

limbata. Div. 2, Group 1 (Subgroup 3) and Group 3.

nigrans. Div. 1 and Div. 2, Group 1 (Subgroup 3) and Group 3.

pygidialis. Div. 2, Group 1, Subgroups 1 and 3.

The species not known to me appear to belong to the following divisions, etc.:—

lepida. Div. 1.

mixta. Probably Div. 2, Group 1, Subgroup 1, but possibly Div. 1.

ornata. Div. 2, Group 1.

parva. Div. 2, Group 3.

tomentosa. If not a *Tomoxia* would appear to belong to Div. 2, Group 3.

MORDELLA AUSTRALIS (Boi.), Lea.

M. albosparsa, Gemm. (*M. albosignata*, Boh., n. pr.).

M. undosa, MacL.

Pl. xiv., figs. 55-59.

I have previously (Proc. Linn. Soc. N.S. Wales, 1895, p. 288) described as *australis*, Boi., a species whose typical specimens may be readily identified by an oblique vitta from the vicinity of the scutellum, and the pattern given (in Trans. Ent. Soc. Lond., 1902, pl. i., fig 12) should prevent typical specimens from being confused with any other species; but specimens with this vitta wanting or ill-defined and the other markings broken up are not readily distinguished from small non-fasciate specimens of *promiscua*. This species was so identified in the Macleay Museum (although the species identified by Macleay from Gayndah was a form of *elegans*); the species identified as *australis* by Olliff from Lord Howe so identified in the Macleay Museum (although the species identified as *australis*; the original description, "*Minor, nigra, thorace postica linea alba; elytris fasciis tribus interruptis, tenuissimis, albidis*," in fact, would apply to a great many species of the genus. The description of *albosignata*, Boh.,

reads very well as if founded upon this species, and two specimens of it were identified by Mr. Champion as *albosparsa*, Gemm. (a substitute name for *albosignata*, Boh.). The type of *undosa* (fig. 55) also belongs to this species. The species was also doubtfully identified in Blackburn's collection as *australis*, and without a mark of doubt as *albosparsa*, but some specimens were also standing in that collection as *bella*, which most certainly they are not (although with extended and obscured markings it is not always easy to distinguish the two forms); it is, however, probable that the specimen, commented upon by Waterhouse, on whose elytra "the spot below the scutellum divides posteriorly," belongs to *australis*.

Unfortunately the species is a variable one; on many specimens the markings are silvery-white, fairly large, and exactly as in the quoted pattern; but on other specimens, although the markings are as figured, the pubescence of which they are composed differs so little in colour from that of the adjacent parts that it is difficult to make them out. Thus a specimen in the Macleay Museum has the pubescence of the upper-surface apparently entirely dark, but on moving it about in certain lights the typical markings of the species may be traced. Not infrequently the apical mark on each elytron is broken up into two, and it usually has a ragged look.

Two specimens (from Healesville, in the National Museum) apparently taken at the same time (they are mounted on one card) agree so perfectly in general details that it would be absurd to separate them, yet one (fig. 56) has the oblique vitta much longer than usual, whilst from the other (fig. 57) it is absent, but the humeral vitta is considerably prolonged. Another specimen (fig. 58) (from Fern Tree Gully, in the same Museum) has the subscutellar vitta and the apical spot on each elytron both absent. Some specimens exhibit a tendency to vary in the direction of *sydneyana*; this is well exemplified by a specimen from Cairns (fig. 59).

MORDELLA BALDIENSIS, Blackb.

Var. *waterhousei*, Champ. (*obliqua*, Waterh., n. pr.).

Var. *alboscuteclata*, Lea.

Var. *ignota*, Lea.

Var. *inconspicua*, Lea.

The specimens I have previously identified as *baldiensis* belonged to the form recorded by Blackburn (*ante*, 1893, p. 138) as from New South Wales, and which he suspected might belong to a different species. I have now seen a cotype and another authenticated specimen, and having about 150 specimens to judge from, am now convinced that they

belong to a rare variety of a common and very variable species, several varieties of which have been named; but as *baldiensis* was the first named the others must rank as its varieties.

WATERHOUSEI. On this form the elytral clothing is dark outwardly from an oblique line extending from each shoulder to the suture near the apex, but the positions of the oblique lines vary with the point of view, the clothing inwards of it is more or less greyish (on some specimens golden-grey or golden-brown), but from certain lights also appears black.

BALDIENSIS. The suture and an oblique line from each shoulder towards the suture are clothed with paler (usually somewhat golden) pubescence than on the rest of the elytra (but from some directions these markings are not visible).

ALBOSCUTELLATA. Pale clothing of elytra confined to the shoulders.

IGNOTA. Pale clothing of the elytra consists of scattered whitish hairs, absent from an oblique line from each shoulder to the suture near the apex (but the oblique lines not sharply defined).

The above four forms are moderately large (4-5½ mm. to tips of elytra), but they are exactly paralleled by smaller specimens (2½-4 mm.) that occur in much greater abundance. They all have the four basal joints of the front tarsi of the males about the width of the tip of the tibiae; in the female they are distinctly narrower.

INCONSPICUA. Much like *alboscutellata* on a small scale.

A specimen (from Launching Place, in the National Museum) has two oblique vittae from each shoulder, the inner one less conspicuous than the outer. Several specimens (from Stradbroke Island and Brisbane, in the Queensland Museum) have the pale pubescence on the elytra triangularly diminishing to near the suture about the middle, and then continued along the suture for a short distance; but each elytron has a distinct black spot near the base. On many specimens the only pale clothing on the elytra is an obscure patch on each shoulder, and even that occasionally vanishes. Numerous other slight varietal forms might be described.

MORDELLA BELLA, Waterh.

The form of this species with the basal half of the elytra clothed with pale pubescence and abruptly limited behind by a zigzag fascia is quite certainly distinct from *promiscua*; but the clothing varies till the only pale portions left are narrowly-margining parts at the base and the median zigzag fascia; specimens on which even these are broken up are difficult to distinguish from spotted ones of *promiscua*; and specimens on which the golden pubescence is considerably

extended are often strikingly close in general appearance to *limbata*.

MORDELLA BREVIS, Lea.

The remarkable shape of the median fascia of this species renders typical specimens unmistakably distinct from all others of the genus, but several specimens before me (except in their much smaller size) indicate an approach to some forms of *promiscua*.

MORDELLA CARA, Blackb.

Specimens with the typical markings of this species well defined are easily distinguished from *promiscua*, but with the markings more or less obliterated it is not always easy to distinguish them from that species.

MORDELLA DUMBRELLI, Lea.

On some specimens of this species the posthumeral spot on each elytron is occasionally split up into two, and on such specimens the sizes of the other spots are generally much reduced, and occasionally the medio-apical vitta of the pronotum is absent. The species occurs in Victoria and Queensland (to as far north as Cairns) as well as in New South Wales, and the specimens from the northern parts are generally smaller (down to 6 mm. to the tips of the elytra) than those from the southern parts. A specimen (from Ebor, New South Wales, in the Queensland Museum) has the posthumeral spot on each elytron divided and all the pronotal markings narrowly connected together; a specimen sent with it has similar elytral markings, but most of the pronotal spots disconnected.

MORDELLA ELEGANS, Waterh.

Var. *festiva*, Lea.

Pl. xiv., figs. 60-65.

A common and variable species that extends from South Australia to Northern Queensland appears to be *elegans*. The median markings of the elytra are usually in the form of a zigzag fascia (usually rather loosely compacted), and are sometimes connected with the basal markings, but they are occasionally split up into spots; the subapical spot on each elytron varies considerably in size and shape, and is sometimes wanting: the basal markings also vary. The form named *festiva* appears to be a variety. Waterhouse said that *elegans* was relatively shorter and more robust than *communis* (*promiscua*), and that the spots on the elytra were much larger; this is the case with many specimens of the species, but there are many specimens before me that might belong either to the present species or to *promiscua*; some specimens also vary

in the direction of *sydneyana*, and others in the direction of *limbata*. It was a form of *elegans* that Macleay identified as *australis* from Gayndah; but it differs from the species he had in his own collection as *australis* (the species I described as such) by the elytra having a basal mark running parallel with the suture, instead of diverging from it.

MORDELLA ELONGATULA, MacL.

On the pronotum of this species there is usually a round black spot towards each side as well as the median vitta, and the latter is sometimes not at all interrupted at its middle.

A specimen from Aru (H. Elgner) probably belongs to this species; it has a wide median vitta and two large spots on the pronotum; on the elytra the golden pubescence about the base appears as rather fine lines enclosing five black spots, the postmedian fascia is almost as distinct as on the typical form, but the subapical one is reduced in size and composed of silvery pubescence.

MORDELLA FELIX, Waterh.

Pl. xiv., figs. 66-70; pl. xv., figs. 119-121.

The very different shape of the median fascia of this species is sufficiently distinctive from *promiscua*, but all the elytral markings tend to obliteration; on the other hand, the median fascia and basal markings are frequently connected, so that it is not always easy to distinguish such specimens from *limbata*. On many specimens there are two oblique vittae from the base of each elytron, an obscurely-defined humeral one, and a narrower, more sharply-defined one half-way between the shoulder and the suture; the average size is below the average of *promiscua*.

Mr. Dodd sent numerous specimens from Kuranda that belong to the species, but their average size is distinctly less than that of specimens from New South Wales; the prothorax frequently has an iridescent gloss, and its paler clothing (more or less golden) usually consists of a narrow edging (fig. 119), frequently with, but often without, two small discal spots, or the latter may be extended to join in with a dilated apical border, and so to mark off the positions of three dark discal spots (fig. 120), although these are never completely isolated, as they frequently are on specimens (fig. 121) from New South Wales. The liability of the prothoracic markings to vary in extent, however, is so great in the family that reliance can seldom be placed upon them. On most of the Kuranda specimens the elytra between the base and the median fascia are more or less obscurely diluted

with red, and the dilution occasionally extends beyond the fascia; on some specimens there appears even to be an oblique vitta from each shoulder, and on looking at the specimens from behind these reddish parts appear quite conspicuous. The pubescent markings of the elytra vary considerably in extent, and from silvery to golden; on large specimens (fig. 66) close to the typical form there are usually two vittae projecting backwards from the base, but these may be connected together so as to enclose a dark spot; usually the inner one is more sharply defined than the other, and occasionally it is isolated; the basal markings on this form are usually connected with the median fascia, and the latter is more or less abruptly deflected to touch each side. On many small specimens (fig. 67) the basal markings are widely extended and obliquely connected with the median fascia, the latter being conspicuously less angular (its outlines are usually distinctly curved), and not connected with the margins (some specimens of this form approach *bella*). On many small specimens (fig. 68) the two basal vittae on each elytron are distinct, but the median fascia is very feeble. The subapical spot or fascia on each elytron also varies considerably in size. The patterns so gradually change (Mr. Dodd sent 54 specimens) that it does not appear desirable to pick out and number certain forms; but five patterns of the elytral markings are given, and many more could have been added.

MORDELLA GRAPHIPTERA, Champ.

Typical specimens of this species have very little in common with *hamatilis*, but I have seen several specimens that apparently on good grounds might be referred to either; and both are very variable in the markings of the prothorax and elytra.

MORDELLA HAMATILIS, MacL.

Pl. xiv., figs. 71-77.

Of the two specimens standing above this name in the Macleay Museum but one (fig. 71) agrees perfectly with the description. The other (fig. 72) has the hook-shaped mark on each elytron broken up into two spots of unequal size, and the four postmedian spots semicircularly instead of transversely arranged, the two subapical spots are also much smaller than on the type; on the latter the black pubescence has a purplish gloss, on the co-type it has a greenish gloss.

A specimen from Northern Queensland (fig. 73) differs from the type in having the hook-shaped mark on each shoulder solid-white, the spots immediately behind the scutellum conjoined to form but one, the four postmedian spots conjoined to form but two, and the two subapical spots

considerably enlarged. Another specimen (fig. 74) has the hook-shaped spot on each shoulder somewhat pear-shaped but enclosing a small dark spot, and the outer ones of the postmedian spots considerably reduced in size. Both these have the black pubescence with a purplish gloss, and the pygidium less acute than on the type (this is probably a sexual difference). A smaller ($2\frac{3}{4}$ mm., including the pygidium) specimen (fig. 75) has the hook-shaped mark on the shoulder more solid than on the type, but still a hook, the postscutellar spots combined to form a rather small subquadrate one, the postmedian spots combined to form an interrupted fascia, and the subapical spots very considerably reduced in size. A specimen (fig. 76) from Wide Bay, in the Macleay Museum, has the hook-shaped mark on the shoulder even better defined than on the type, the postmedian spots combined to form an irregular interrupted fascia, and the subapical spots as an interrupted bisinuate fascia. A specimen (from Tamworth) has all the markings considerably reduced in size, and the hook-shaped mark on the shoulder small and very obscure; on the pattern (fig. 77) given it appears as a very conspicuous mark, but its outlines, in fact, are traceable with difficulty. This specimen has a distinct trend to some forms of *graphiptera*, and two specimens (from Jenolan) denote a still closer approach to that species. On the other hand, a specimen of *graphiptera* has vaguely-defined golden markings approaching the pattern of the type of *hamatilis*. A specimen (from Oodnadatta) in appearance is very close to fig. 75, except that the postscutellar spot is much narrower, and that the postmedian spot is more nearly broken up into two.

The prothoracic markings, as with most of the variable species, are also subject to considerable variation. Macleay thought the species was possibly a *Tomoxia*, but the scutellum does not very abruptly cut into the elytra, and the pygidium is somewhat acutely pointed in one sex, although blunt in the other.

MORDELLA, sp.

Pl. xiv., fig. 78.

A small (3 mm.) specimen from Cairns (E. Allen) is structurally so close to *hamatilis* that it is inadvisable to name it without seeing more specimens. The black pubescence in certain lights has a purplish gloss; on the pronotum the base and apex are narrowly margined with white pubescence, and there are two narrow and almost complete longitudinal vittae (as on several specimens of *hamatilis*); on each elytron (fig. 78) the white spots are: a transverse semidouble posthumeral one, and a transverse postmedian one almost conjoined with its fellow on the other elytron.

MORDELLA LEUCOSTICTA, Germ.

Pl. xiv., fig. 79.

A specimen (from Sydney, in the Macleay Museum) appears (to the naked eye) to have all the elytral markings connected; on each elytron the curved basal spot has a narrow line connecting it with the posthumeral spot, and the latter is very close to it but does not quite touch the median spot; the median spot is irregularly continued to join in with the subapical fascia; the suture narrowly dividing these markings.

MORDELLA LIMBATA, Waterh.

I have seen several specimens that might have been referred to this species, to *bella*, or to *promiscua*, but the typical form of the species is quite distinct from either of the latter. Two specimens (from King George Sound, in the Macleay Museum) have the elytra, except about the tips and the sides near the tips, at first glance apparently uniformly clothed with golden-brown pubescence; but on examining them closely a paler median zigzag fascia becomes visible, and there is also a wide pale subapical spot; examining the elytra from behind the whole pubescence appears blackish.

MORDELLA MULTIGUTTATA, Waterh.

Pl. xiv., fig. 80.

A specimen (from Wide Bay, in the Australian Museum) has the second and third elytral spots (counting from the base) of ordinary specimens conjoined to form an oblique vitta; on the two elytra the markings form an irregular V, but are lightly separated by the suture.

MORDELLA NIGRANS, MacL.

Pl. xiv., figs. 81, 82.

Two specimens on a card were standing above this name with a type label in the Macleay Museum, but they belong to two distinct species. They were both gummy, so that the pubescence was partially obscured. Macleay described the elytra as "without distinct mark, but showing in some lights a very faint oblique longitudinal vitta"; the only specimen so marked on being soaked for some time in water and cleaned with chloroform is seen to have a rather short white oblique spot in the middle of each elytron (it completely disappears, however, when the elytra are viewed from behind); the suture also and the base of the pronotum are narrowly marked with whitish pubescence, and there are white spots at the sides of the abdomen; the spurs of the hind tibiae are reddish and unequal, the longer one being twice the length of the

shorter and more than half the length of the basal joint of the tarsus. The apex of the abdomen is crushed inwards, but the pygidium has a fairly acute tip.

The type (fig. 81) represents a rare variety (I have only seen a second specimen of it) of a species sent in abundance by Mr. F. P. Dodd from the Cairns district (and also taken there by Mr. E. Allen and myself).

Var. 1. The most abundant form (but which must be treated as a variety owing to rules of precedence) in a bright light glows with the most brilliantly-metallic rainbow tints,⁽²⁴⁾ transversely placed but altering with every point of view; in a more subdued light it still has a conspicuous greenish or bluish gloss, but some specimens, even in a poor light, are brilliantly metallic. The suture and shoulders are usually lightly clothed with somewhat golden pubescence.

Var. 2. Like Var. 1, but without metallic gloss.

Var. 3. With the brilliant rainbow tints of Var. 1, but prothorax with a thin line of white pubescence from base to apex on each side of middle; suture and a short oblique stripe on each shoulder with pale pubescence. Many specimens of this variety have the white lines on the pronotum sharply defined, but on others they are scarcely traceable.

Var. 4. Pubescence mostly with a purplish or bluish gloss, but each elytron (fig. 82) with four oblique feebly-defined vittae of whitish pubescence, and some white pubescence on the shoulder. A single specimen.

Var. 5. Like Var. 1, but with an oblique reddish vitta on each shoulder. The vittae on one specimen are rather faint, but on two others well defined and traceable (from certain directions) to beyond the middle.

MORDELLA OBSOLETA, Lea.

The complete or almost complete absence of basal markings from the elytra of this species, and the conspicuous zigzag fascia are sufficiently distinctive of typical specimens; but it is difficult to decide of some specimens as to whether they belong to it, to *bella*, or to *promiscua*.

MORDELLA 18-MACULATA, Lea.

Pl. xiv., fig. 83.

A specimen from Cunnamulla (Queensland) is larger (7 mm.) than usual, and with the basal spots on each elytron combined to form but one (of semicircular shape and almost conjoined with a sub-basal one). A specimen from Lucindale

⁽²⁴⁾ The type is also brilliantly metallic, but less so than the specimens taken by Mr. Dodd (it was, however, taken nearly forty years before them).

(South Australia) is slightly smaller than the types, and has the elytral markings as on the Cunnamulla specimen, except that they are on a reduced scale and less sharply defined.

MORDELLA 9-MACULATA, Lea.

Some specimens from the Dividing Range (Victoria) have the markings of the upper-surface golden, and with two small distinct spots in the middle of the pronotum. A specimen in the National Museum is labelled (probably in error) as from the Endeavour River.

MORDELLA OVALISTICTA, MacL.

Pl. xiv., fig. 84; pl. xv., fig. 122.

The type and only specimen I have seen of this species in general appearance is very close to several others (*14-maculata*, *8-maculata*, and *notabilis*), but is distinguished from them by the narrow subapical fascia of the pronotum extending, without interruption in the middle, almost from side to side, the two narrow vittae behind it are not quite parallel to each other, and if extended would meet slightly beyond the scutellum. Macleay described each elytron as trimaculate, but he overlooked a small spot to the side of and mid-way between the first and second.

MORDELLA PROMISCUA, Er.

M. communis, Waterh.

Var. *trivialis*, Waterh.

Var. *aemula*, Lea.

Var. *fugitiva*, Lea.

Var. *raymondi*, Lea.

Var. *simillima*, Lea.

Pl. xiv., figs. 85-90.

So many species vary in the direction of *promiscua* and its varieties that, from examination of the upper-surface only of many of their specimens, I believe it to be *impossible* to state with certainty as to which of several species they belong to. The variety *trivialis* is the most distinct of the species, and one need seldom be in doubt about typical specimens of that variety, but the other varieties and some species (*australis*, *bella*, *brevis*, *cara*, *elegans*, *felix*, *limbata*, *obsoleta*, and *sydneyana*) so frequently have the spots or fasciae broken up, that apparently connecting forms may be traced amongst many species, that yet, by their typical forms, are seen to be abundantly distinct, and which should not be regarded as varieties of the species. I have previously given some patterns of the species and its varieties (Trans. Ent. Soc. Lond.,

1902, pls. i. and ii.; *communis*, figs. 1 and 2; *aemula*, fig. 10; *fugitiva*, fig. 16; *raymondi*, fig. 21; *trivialis*, fig. 22; and *simillima*, fig. 32); but the markings on each elytron may be considered as: A. A narrow sutural portion from near the base continued round the base to the shoulder, and frequently with an oblique extension from the shoulder. B. An oblique subhumeral spot. C. A median zigzag fascia. D. A subapical spot. But of these markings A may be connected with B, or may be represented by a few disconnected spots; B may be enlarged in size or disappear; C is frequently broken up into disconnected spots, or all parts except a reversed V may disappear, and its outlines are frequently blurred, occasionally it is connected with A, it is seldom quite absent; D is of variable size and shape, or may be wanting. Moreover, many of the markings tend to disappear from certain points of view, and they are always obscured or apparently wanting on greasy specimens; a slight amount of abrasion also very considerably alters the appearance of many specimens. The markings on the pronotum are quite unreliable. On many specimens from South Australia and New South Wales some of the markings on the basal half of the elytra are conjoined to form an ornamental T (fig. 85; the pattern, of course, shows only the right half of the T). Some specimens of this form decidedly approach some forms of *limbata*. A specimen (from King George Sound, in the Macleay Museum) perhaps represents an extreme variety of the species; it is the size of *trivialis*, but with the elytral markings reduced to an obscure subapical transverse spot, and a still more obscure (invisible from most directions) and very small medio-sutural spot; its general pubescence is of a dark rusty-brown.

Simillima is now first noted as a variety of the species; there are numerous specimens in the Museum from Kangaroo Island that quite easily connect it with *promiscua*, although at the time it was described such specimens were not available, and the types appeared so distinct from *communis* (*promiscua*) as to not even need comparison with that species.

I am quite satisfied that there are specimens of several undescribed species before me that are allied to *promiscua*, but they have been passed over as they were not represented by sufficiently long series to render their typical forms clearly definable.

MORDELLA PULCHRA, Lea.

Two specimens from Brisbane (sent with two normal ones) differ from the type in being smaller and with the basal half of the derm of the elytra of a rusty-brown, but with a somewhat golden appearance due to the pubescence; the derm between the median and subapical fasciae, and the apical

part, is of a darker brown than the base; the under-parts are as on the type.

MORDELLA SUBVITTATA, MacL.

In general appearance the type (and only specimen I have seen) of this species is much like *wiburdi* on an enlarged scale; but besides size, it differs from that species in being narrower, with the pygidium more gradually tapering to its tip.

MORDELLA SYDNEYANA, Blackb.

Typical specimens of this species are readily distinguished from typical ones of *cara* by the shape of the subapical spot on each elytron; but specimens whose markings tend to obliteration are not always easily distinguished from that species, or from spotted specimens of *promiscua*; whilst some are scarcely distinguishable from specimens of *australis* whose oblique subscutellar vitta is vaguely defined.

Var. *CAIRNSENSIS*, n. var.

Numerous specimens from Cairns (F. P. Dodd) differ from the typical form in being smaller ($3\frac{1}{4}$ mm.), and with the pale clothing of the metasternum confined to the sides and intercoxal portion.

MORDELLA TRISTIS, Lea.

On the male of this species the front tarsi are conspicuously dilated, being wider than the tibiae, the two basal joints are distinctly longer than wide, the third is slightly longer than wide, and the fourth is as long as wide (on some specimens it appears to be feebly transverse); the only species with larger tarsi that I have critically examined is *tarsalis*. The head (especially in the male) is of a more or less brilliant bluish-green, altering with every point of view. The species is common in Tasmania, and occurs at Jenolan, as well as on Mount Kosciusko, in New South Wales.

MORDELLA V-AUREA, Lea.

A specimen from the Capel River (Western Australia) agrees perfectly with the type, except that the subapical markings of the elytra are conjoined to form a bisinuate fascia.

MORDELLA VERTICORDAE, Lea.

On typical specimens of this species the elytral pubescence, although paler on the suture than on the sides, is not sharply defined there, the colour gradually changing; on the abdominal segments also there are no conspicuous dark

spots at the sides, although in some lights the tips of the segments appear to be darker than the other parts. A specimen (from the Blackburn collection) differs from the types in being somewhat larger (7 mm. to tips of elytra) and uniformly clothed all over with ashen-white pubescence, quite as pale on the sides of the elytra as on the suture.

Var. NIVEOSUTURALIS, n. var.

There are before me 33 specimens from Western Australia (Capel River, Mount Barker, and Beverley) that differ from the typical form in having the suture narrowly and conspicuously snowy-white, in strong contrast to the rest of the clothing (the sides at the base where they are concealed from above have pale clothing, but not so white as on the suture, and on the typical form the clothing there is also paler than on the disc), and each of the abdominal segments has a conspicuous dark spot on each side.

The specimen formerly recorded as *verticordiae* from Mount Barker belongs to this variety; of the typical form I have seen specimens only from Mogumber and Mullewa. The two forms are quite sharply defined and distinct, but as they agree so closely in structure, especially as to the conspicuously-notched pygidium, it does not appear desirable to treat the present form as more than a variety.

MORDELLA V-FASCIATA, Lea.

A specimen from Benalla has the black pubescence of the elytra with a distinct greenish gloss in certain lights; the infusate spot on the disc of the pronotum scarcely traceable, but the one on the head distinct. A specimen from Cairns agrees well with the variety *modesta*, except that there is an obscure spot of stramineous pubescence near the apex of each elytron.

MORDELLA CONSPECTA, n. sp.

Pl. xv., fig. 123.

Black, in places conspicuously iridescent; antennae and palpi obscurely reddish. With short pubescence, whitish on head, scutellum, mesosternum, and legs, whitish but not evenly distributed on metasternum and abdomen, and variegated on pronotum and elytra.

Rather narrow. Scutellum with sides oblique and tip rounded. Pygidium elongate, ridged along middle, tip truncate. Antennae elongate, none of the joints transverse. Longer spur of hind tibiae almost twice the length of the other. Length,⁽²⁵⁾ 9-13½ mm.

(25) The lengths are in each case inclusive of the pygidium.

Hab.—Queensland: Bloomfield River (C. French), Endeavour River (Macleay Museum), Cairns (C. J. Wild, in Queensland Museum), Mackay (R. E. Turner, in National Museum).

With the general outlines of *elongatula*, but markings very different, and pygidium truncated instead of acutely pointed. On two small specimens (both males) the front legs are partly reddish. The head, and to a less extent the pronotum, has a conspicuous bluish iridescence; the elytra are also sometimes iridescent; the under-parts, especially the metasternum and abdomen, are brilliantly iridescent, the prevailing colour being purplish. Each abdominal segment appears to have a dark spot on each side, but this is due mostly, or entirely, to the partial absence of pubescence. On the pronotum the dark pubescence forms a rather wide median vitta and a large spot on each side, but the silvery pubescence defining the spots is more conspicuous on some specimens than on others. On the elytra the black pubescence usually has a purplish or bluish gloss, the paler markings on four specimens consist of a postmedian fascia of stramineous pubescence not quite touching the sides; between the fascia and the base some irregularly-distributed pubescence is loosely compacted to form a subtriangular space, or to form two very irregular fasciae; on two other specimens the postmedian fascia is very feeble and ill-defined, and the pale pubescence towards the base is much sparser, although loosely compacted; the pygidium has silvery pubescence at the base and on the sides to beyond the middle

MORDELLA CHRYSOPHORA, n. sp.

Pl. xiv., fig. 93; pl. xv., fig. 124.

Black; spurs to hind tibiae reddish at tips. Pubescence black, variegated with numerous golden spots.

Moderately robust. Pygidium long and acutely pointed. Spurs to hind tibiae of equal length. Length, 11 mm.

Hab.—New South Wales: Dorrigo (R. J. Tillyard). Type (unique), in Queensland Museum.

The disposition of the elytral spots is somewhat like that of *14-maculata*, *notabilis*, and *multiguttata*, although not exactly the same, but the prothoracic markings are very different to those of the two first-named species, and less in number than those of the third. On the head the pubescence is somewhat golden in front, but is conspicuously golden on a transverse spot at each side of the base; on the sides and apex of the pronotum there are a few golden hairs, but there are eight conspicuous spots, of which four form a series across the apical third, and four form a semicircular series, of which

the outer spots are basal and larger than the others; on each elytron the spots are as follows: one at side of scutellum, a submedian one close to suture, a subapical one close to suture (these three in a line), one equi-distant between the latero-basal spot of pronotum and the submedian spot, one on the side just above the junction of the mesosternum and metasternum (between this spot and the submedian one there are a few golden hairs, but scarcely compacted to form a distinct spot), and a small one near the side slightly posterior to the subapical spot. On each abdominal segment there are four spots, of which the two median ones are conjoined.

MORDELLA VITTICOLLIS, n. sp.

Pl. xiv., fig. 94; pl. xv., fig. 125.

Black. With white pubescence on front of head and margining base; irregularly margining pronotum, forming a zigzag fascia across apical third but interrupted in middle, forming two small oblique submedian spots; forming seven spots on each elytron and numerous spots on under-surface.

Moderately robust. Pygidium long and acute. Antennae with fifth to tenth joints transverse. Spurs to hind tibiae of equal length. Length, 10 mm.

Hab.—New South Wales: Byron Bay (C. Watson, unique).

Close to *notabilis*, but with subhumeral spots more numerous and an extra spot near apex of elytra; the prothoracic markings are very different, being (except for two disconnected spots) almost exactly as those of *8-maculata*. Also close to *ovalisticta*, but with more numerous elytral spots, and transverse submedian fascia of pronotum interrupted. On each elytron the spots are as follows: one close to scutellum, one rather close to the first in an oblique direction, a very small one in line with these two, this very small one the median one of three, of which one is on the side above the junction of the mesosternum and metasternum, and the other is close to the suture before the middle, a spot near the suture at the apical fourth, and a small spot behind it near the side. On both of the hind tibiae of the type one of the spurs is obscurely reddish, and the other is almost black.

MORDELLA PYGIDIALIS, n. sp.

Pl. xiv., figs. 95, 96; pl. xv., fig. 126.

Black; front legs and base of antennae obscurely reddish. With white pubescence fairly dense on head and forming numerous conspicuous spots on upper- and under-surfaces.

Not very robust. Scutellum with sides oblique and tip truncated. Pygidium long and acute. Antennae with fifth

to tenth joints strongly serrated. Spurs to hind tibiae subequal. Length, $6-8\frac{1}{2}$ mm.

Hab.—Queensland: Rockhampton; New South Wales: Illawarra, Sydney (Macleay Museum), Dorriggo (H. J. Carter). Type, I. 6003.

At first glance apparently close to *9-maculata*, but with a conspicuous spot on each side of scutellum, and the prothoracic markings very different; the latter are the same in number and disposition to those of *multiguttata*, but the elytral ones are very different to those of that species. Of this species all the specimens (except to a certain extent in size) agree in the prothoracic markings, but I have regarded as the typical form that one of which there are five specimens from four localities before me; on this form on the pronotum there are five sublongitudinal spots in front, either free or connected with the apex, and varying somewhat according to the individual, there are four spots at the base and two submedian ones; on each elytron (excluding a narrow and feeble latero-basal spot, quite concealed from above) there are five spots, of which four are not quite in a straight line, one is basal, one half-way between it and a submedian spot, and one at the apical fourth, the fifth spot is near the side in a transverse line with the second spot, and not posterior to the hind end of that spot.

Var. 1. On a specimen (fig. 96) from Illawarra (in the Macleay Museum) the hind end of the posthumeral spot is distinctly posterior to the second spot, and the spot on each side of the scutellum is broken up into two small ones. It is also of rather small size.

Var. 2. On two specimens from Lord Howe Island⁽²⁶⁾ (in the Australian and Macleay Museums) the posthumeral spot is almost entirely posterior to the second spot; the pygidium also, although long and thin, is truncated at its tip, instead of running out to an acute point.

MORDELLA AURONOTATA, n. sp.

Pl. xv., figs. 97, 127-131.

Black; palpi, parts of front legs, and base of antennae obscurely reddish. With golden pubescence on head, and forming numerous conspicuous spots elsewhere.

Rather compact. Scutellum transverse, sides oblique, apex widely truncated. Pygidium elongate but with the tip

⁽²⁶⁾ When on the island recently I saw a fairly large spotted specimen on maize flowers that probably belonged to this variety, but it escaped capture.

truncated. Antennae with fifth-tenth joints moderately wide but not transverse. Spurs to hind tibiae of uneven lengths. Length, 4-6½ mm.

Hab.—Queensland: Cairns district (F. P. Dodd). Type, I. 5893.

A beautifully-marked species, in some respects approaching *Tomoxia*, and sent in abundance by Mr. Dodd. On some specimens the head is conspicuously iridescent, and the iridescence extends to the pronotum, although less noticeable there; on some specimens also the under-parts have a bluish iridescence. On the pronotum there are usually (fig. 127) six spots forming an irregular transverse series, but some of these are occasionally (fig. 128) conjoined with the golden front margin, on each side of the base there is a large semi-circular spot; on the elytra there is a spot common to both immediately behind the scutellum, and on each three large round equidistant ones; there is also a small latero-basal spot, but it is quite concealed from above; the mesosternum is clothed with golden pubescence almost throughout, but the largest isolated spot on each side of the under-surface is one (fig. 130) common to the metasternum and abdomen.

Var. 1. On seven specimens from Cairns (F. P. Dodd), two from Mackay (R. E. Turner), one from Byron Bay (H. J. Carter), and one from Lord Howe Island (in the Australian Museum), the markings are more or less silvery, and on the head the pubescence is greyish; on the pronotum the basal markings are reduced in size, the apex and sides near apex have rather straggling, whitish pubescence, and the spots forming the transverse series are reduced in number to four (fig. 129) or two; on the elytra there is no latero-basal spot, and on the under-surface there (fig. 131) is an uninterrupted line of pubescence from the front of the mesosternum to the back of the metasternum, on the latter appearing semicircular.

The specimen in the Australian Museum from Lord Howe Island belonging to this variety was labelled by Olliff as *M. australis*, Boisd., but it can scarcely be that species, whose elytral markings were described as "*fasciis tribus interruptis, tenuissimis, allidis*"; the spots on the elytra are quite distinctly rounded spots and not interrupted fasciae; quite certainly it is not even close to the species I have previously described as *australis*, and which (as it has also been recognized by Macleay and Blackburn as such, and is a very distinct species with distinctive markings) I think should be regarded as that species until proved to the contrary. I also took a specimen on the island with the markings disposed as on the variety, but golden instead of silvery.

MORDELLA IRIDEA, n. sp.

Pl. xv., figs. 98, 132.

Black; base of antennae and spurs of hind tibiae very obscurely diluted with red. White pubescence margining base of pronotum, on scutellum, forming three distinct spots on each elytron, and spots on under-surface.

Rather compact. Scutellum small, sides strongly rounded. Pygidium elongate, its tip truncated. Antennae with fifth-tenth joints rather wide and strongly serrated. Spurs to hind tibiae of considerably different lengths. Length, $3\frac{3}{4}$ -5 mm.

Hab.—Queensland: Cairns district (F. P. Dodd). Type, I. 6002.

In general appearance close to the variety of the preceding species, but the scutellum of different shape, without a spot on the elytra immediately behind it, and the pubescence of the metasternum (fig. 132) different. In some lights the head and pronotum are brilliantly iridescent, and the elytra and under parts have a bluish iridescence. The submedian spot on each elytron is slightly nearer the subapical than the sub-basal one, between it and the sub-basal one, but slightly to the side, there are a few silvery hairs, but scarcely condensed to form a spot, although present on both sides of the three specimens under examination; on each side of the metasternum there is a spot quite disconnected with the white markings of the mesosternum and abdomen; on the latter there is a white spot on each side of each segment, but not in the middle.

MORDELLA METASTERNA, n. sp.

Pl. xv., fig. 99.

Black; some specimens with base of antennae very obscurely diluted with red. Head with silvery-grey or silvery pubescence continued on to front of pronotum and usually forming two feeble oblique median spots; distinct silvery pubescence margining base of pronotum, on scutellum, and forming spots on elytra and on under-surface.

Compact. Scutellum subtriangular, apex rounded. Pygidium elongate, the tip rather blunt. Antennae with fifth to tenth joints moderately wide. Spurs to hind tibiae slightly unequal. Length, $4\frac{1}{2}$ -5 mm.

Hab.—Queensland: Cairns district (F. P. Dodd). Type, I. 5899.

In some respects close to *obsoleta*, but elytra with the median fascia on all the (eleven) specimens in the Museum broken up into disconnected spots, and the sides of the metasternum without white pubescence. On most of them the head and pronotum are brilliantly iridescent. The two median

spots on the pronotum are narrow and distinct on some specimens, but scarcely (if at all) traceable on others; the elytra are without basal markings, although the white scutellum gives them a maculate appearance there; the spots across the middle of each elytron are three in number, and have the appearance as of parts of a zigzag fascia, there is a large subapical spot that, with its fellow on the other elytron, gives the appearance of an interrupted fascia; the flanks of the mesosternum are clothed with conspicuous whitish pubescence, and there are distinct spots on the middle and sides of the abdominal segments.

MORDELLA ALPHABETICA, n. sp.

Pl. xv., figs. 100-102.

Black; front legs and base of antennae usually obscurely reddish. With silvery-grey pubescence on head and pronotum, but on the latter leaving a large median and a smaller black spot on each side, on elytra, on suture to a fascia at apical third, and forming markings about shoulders, and on under-surface, but with transverse dark spots on abdomen.

Short and compact. Scutellum semicircular. Pygidium short, its tip truncated. Antennae not very conspicuously serrated, and none of the joints transverse. Spurs to hind tibiae very unequal, the longer about twice the length of the shorter. Length, $2\frac{1}{2}$ -3 mm.

Hab.—Queensland: Cairns district (F. P. Dodd). Type, I. 5897.

A minute species. On most of the specimens before me the narrow sutural marking combines with the fascia to form a very conspicuous reversed T, the pale pubescence is sometimes continued along the base to join in with the humeral markings, the latter sometimes appear as oblique disconnected (except at base) vittae, and sometimes almost like a hook (much as on *hamatilis*), although the other markings are very different to those of that species; on many specimens, however, the sutural markings are broken up and disconnected with the fascia; the three dark spots on the pronotum are usually, but not always, conspicuous.

MORDELLA NORFOLCENSIS, n. sp. (or var. of *hamatilis*).

Pl. xv., figs. 103-105.

Black; palpi and parts of antennae and of four front legs obscurely reddish. With whitish or dingy stramineous pubescence on head, margining base, apex, and sides of pronotum, forming obscure spots on under-surface and distinct but variable markings on elytra.

Very short and compact. Scutellum transverse and widely rounded. Pygidium moderately long, its tip rather acute. Antennae rather thin. Spurs to hind tibiae very unequal, the longer fully twice the length of the shorter. Length, $3\frac{3}{4}$ - $4\frac{3}{4}$ mm.

Hab.—Norfolk Island (A. M. Lea). Type, I. 5903.

Five specimens were taken from the flowers of an introduced tree. Of these three have the markings sharply defined but all different: on the type they are darker than on the others and on each elytron consist of a suboval spot immediately behind the scutellum, two oblique disconnected vittae on the shoulder, an irregular postmedian fascia, and a strongly-curved subapical one; this specimen (fig. 103) in many respects approaches a specimen (fig. 76) of *hamatilis* from Wide Bay, and it is possible that the Norfolk Island specimens should be regarded as forms of that widely-distributed and extremely-variable species. On the second specimen (fig. 104) the humeral markings consist of a fairly large spot connected with the base, and a conspicuous disconnected V, and the postmedian fascia is broken up into four very unequal spots on each elytron. On the third specimen (fig. 105) the humeral markings are as on the type, but the postmedian fascia appears as two widely-separated spots on each elytron; the subscutellar spots and subapical fascia, however, are very similar on all three. On the pronotum the black discal portion is in one piece; but the margining parts indicate remnants of the three dark spots of so many species of the genus. The other two specimens at first glance appear to have the pubescence entirely dark, but on turning them about in various directions vague (or submerged) markings become evident, and are seen to consist on each elytron of a post-scutellar spot, humeral markings, a subapical fascia, and remnants of a postmedian one.

MORDELLA NOTATIPENNIS, n. sp.

Pl. xv., fig. 106.

Black; parts of antennae and of front legs and spurs to hind tibiae obscurely reddish. With silvery pubescence on head and scutellum, margining base, apex, and sides of pronotum, forming distinct spots on elytra, and rather obscure ones on under-surface.

Short and compact. Scutellum transverse, the apex widely rounded. Pygidium rather long and very acute. Antennae and tibial spurs much as in preceding species. Length, 4 mm.

Hab.—Queensland: Mount Tambourine (A. M. Lea). Type (unique), I. 5894.

In some respects approaching some varieties of *hamatilis*, but with pygidium acutely pointed. At first glance it appears close to *18-maculata*, but the elytral markings are essentially different and the prothoracic markings are similar to those of the smaller species. There are six disconnected spots in two series on each elytron: the first series close to the suture, the spots equi-distant from each other, and the first at the basal fourth; the spots of the second series are also equi-distant from each other, but the first is on the shoulder at the base.

MORDELLA ADIPATA, n. sp.

Pl. xv., fig. 107.

Black; palpi, base of antennae, and spurs to hind tibiae more or less reddish. Head, pronotum, and under-surface with black pubescence, more or less obscurely variegated with greyish or whitish; elytra with black pubescence having a distinct greenish gloss, and with distinct white spots.

Short and compact. Scutellum semicircular. Pygidium long but somewhat obtusely tipped. Antennae and spurs to hind tibiae as in two preceding species. Length, 5 mm.

Hab.—Victoria: Dividing Range (Blackburn's collection). Type (unique), I. 5885.

In some respects approaching some of the varieties of *hamatilis*, but pygidium much longer and the outer of the two postmedian spots considerably anterior to the inner one. On each elytron there are three small white spots close to the suture: one at the basal fourth, one at the apical third, and one close to the apex; on the shoulder there is a somewhat hook-shaped (or irregular V) mark, and there is a small postmedian spot towards the side.

MORDELLA CALOPASA, n. sp.

Pl. xv., figs. 108-110.

Black; four front legs (tarsi infuscated or not), antennae (apical half infuscated), and spurs to hind tibiae obscurely reddish. Densely and uniformly clothed with golden pubescence on head, prothorax, scutellum, and sterna, and with conspicuous markings on elytra and abdomen.

Moderately elongate. Scutellum subtriangular but with apex rounded. Pygidium long but somewhat obtusely tipped. Antennae with fifth to tenth joints moderately wide. Spurs to hind tibiae unequal, the longer about one-third more than the other. Length, 6-6½ mm.

Hab.—Queensland: Cairns district (F. P. Dodd). Type, I. 5892.

A very beautiful species. Of thirteen specimens sent by Mr. Dodd the markings of ten (except about the shoulders) are almost identical and on each elytron consist of a large basal spot (sometimes continued across the shoulder to the side, but occasionally isolated from the side, which then has one or two vittae), a smaller (but still fairly large) median spot, and a large subapical spot (sometimes touching both side and suture), on the side there is a small and very variable spot above the middle of the metasternum; on the abdomen there is a large irregular dark spot on each side of each segment, but elsewhere its clothing is golden. On another specimen (fig. 109) the markings are as described, except that on the dark parts there are numerous scattered golden hairs; on two others the golden markings on the elytra are all combined, but leave an irregular dark fascia behind the basal spots; on looking at these specimens from certain directions the normal spots are traceable by their denser clothing than on the adjacent parts.

A specimen (fig. 110) from Bulli (Blackburn's collection, from T. G. Sloane) apparently belongs to the species, but has the pale pubescence silvery instead of golden, and on each elytron the following markings: an oval disconnected spot near the base, an elongate patch from near the middle to near the apex, with a lateral extension, and a slight basal margin.

MORDELLA QUADRIMACULATA, n. sp.

Pl. xv., fig. 111.

Black; parts of antennae and of legs and two spots on each elytron obscurely reddish. Pubescence greyish, or black with a bluish gloss, except on the elytral spots, where it is more or less silvery.

Moderately elongate. Scutellum briefly subtriangular. Pygidium rather long and acute. Antennae with fifth to tenth joints not very wide but distinctly serrated. Spurs to hind tibiae very unequal, the longer fully twice the length of the other. Length, $2\frac{1}{2}$ - $3\frac{1}{4}$ mm.

Hab.—New South Wales. Type in Macleay Museum; co-type, I. 6004, in South Australian Museum.

A small species allied to *distincta* and *wiburdi*, from the former distinguished by the four-spotted elytra with the subhumeral spot not commencing at the actual base; from the latter by the complete isolation of the spots. In some respects it resembles the four-spotted variety of *humeralis*, but the size is consistently smaller, and the form is distinctly narrower. The elytral spots are of moderate size, the sub-basal one being larger than the other; it is somewhat obliquely

placed on the shoulder, but touches neither the base nor side; the other is transversely placed slightly beyond the middle; both are rendered more conspicuous by their clothing than they otherwise would be. There are six specimens before me agreeing well in colour, a seventh is without the postmedian spots.

*MORDELLA OBLIQUIRUF*a, n. sp.

Pl. xv., fig. 112.

Black; parts of front legs, base of antennae, and spurs of hind tibiae obscurely reddish, a conspicuous reddish vitta from the shoulder to about the middle of each elytron.

Rather wide and compact. Scutellum small and semi-circular. Pygidium rather long and acutely pointed. Antennae with fifth to tenth joints rather wide. Spurs to hind tibiae slightly unequal. Length, $4\frac{1}{4}$ mm.

Hab.—New South Wales: Bulli (Blackburn's collection, from T. G. Sloane). Type (unique), I. 5887.

Considerably wider in proportion than *subvittata*, pygidium shorter and more acutely pointed, and the head from certain directions appearing to be of a conspicuous blue or greenish-blue; the pronotum, and to a less extent the other parts, have also a bluish iridescence. It is much wider and larger than *wiburdi*. The pubescence is mostly blackish, but is more or less silvery on the muzzle, extreme base of pronotum, scutellum, suture, and elytral vittae, and on parts of abdomen.

MORDELLA CALOPTERA, n. sp.

Pl. xv., figs. 113-115.

Flavous; three (or two) elytral fasciae, mesosternum, tips of hind tibiae, and of three basal joints of hind tarsi black, or blackish; antennae more or less infuscated. Pubescence more or less golden on the pale parts, blackish on the other.

Rather short and compact. Scutellum small and semi-circular. Pygidium rather long and acute. Antennae rather thin, but fifth to tenth joints strongly serrated. Spurs to hind tibiae very unequal, the longer about twice the length of the other. Length, $2\frac{3}{4}$ -3 mm.

Hab.—Queensland: Cairns district (F. P. Dodd). Type, I. 5896.

Allied to *caroli*, but more robust, mesosternum (and sometimes the metasternum) dark, and elytra with fasciae wider and usually with most of the base dark. On the elytra of all the (eight) specimens sent by Mr. Dodd there is a wide median fascia, its margins somewhat undulated, but extending from side to side; there is also always another fascia, but this may or may not extend quite to the apex; about the base there may be a fairly wide fascia (which does not quite

extend to the sides), or it may be represented by a semi-circular spot, or even by a narrow spot immediately behind the scutellum; the metasternum may be as dark as the mesosternum, but is usually pale; the abdomen is sometimes infuscated; the pygidium may be partly or entirely infuscated, or entirely pale. On the middle of the pronotum there are three very ill-defined dark spots (from some directions having a vague bluish iridescence) that are more distinct from the sides than from above.

MORDELLA CALODEMA, n. sp.

Pl. xv., fig. 116.

Flavous; some parts black or infuscated. Pubescence more or less golden on the pale parts, dark elsewhere.

Moderately elongate. Scutellum small and semi-circular. Pygidium moderately long and somewhat obtusely pointed. Antennae and spurs to hind tibiae much as in preceding species. Length, $3\frac{1}{2}$ – $3\frac{3}{4}$ mm.

Hab.—New South Wales: Sydney (H. J. Carter), Blue Mountains (Dr. E. W. Furguson). Type, I. 6005.

The type is mostly flavous; its elytra have a large blackish spot at the base, subtriangularly continued along the suture, across the middle there is a very irregular dark fascia, appearing somewhat like an elongate spot on each elytron irregularly conjoined at the suture, and the apical fourth is also dark; between the dark markings the pubescence is conspicuously golden, that between the basal mark and median fascia appearing somewhat V-shaped, that behind the median fascia being straight on its hind edge, but produced into four points in front (hence causing the fascia to appear trilobed); the mesosternum and metasternum are deeply infuscated; the hind femora, parts of abdomen and of pygidium less, and the antennae scarcely infuscated; the hind tibiae and three basal joints of the hind tarsi are tipped with black. The specimen from the Blue Mountains has the elytral pubescence exactly as on the type, but the basal mark is united along the suture with the median fascia, and this is continued as a solid black patch to the apex, although relieved by the pale pubescence; its abdomen also is almost as dark as the sterna.

MORDELLA BLANDA, n. sp.

Pl. xv., fig. 117.

Flavous and black (or infuscated). Pubescence partly golden and partly black.

Rather short and compact. Scutellum small and semi-circular. Pygidium moderately long and acute. Length, 3 – $3\frac{1}{2}$ mm.

Hab.—Queensland: Wide Bay. Type, in Macleay Museum; co-type, I. 6006, in South Australian Museum.

There are four specimens before me, and the strikingly distinctive disposition of their pubescence renders it certain that they belong to but one species, despite the variation in colour. Two specimens (regarded as of the typical form) have the upper-surface black, except for a large basal portion of the elytra (infuscated, however, on each side of the suture) narrowly continued along the suture to the apex, and a curved fascia from each side obliquely joining in with the sutural portion; these parts are clothed with golden pubescence, on the basal half somewhat resembling a V (the pubescence here being much as on the preceding species); on its apical portion the middle half of the pubescence also resembles a V, but the tops of the V are abruptly deflected to the sides (the pubescence here being very different in disposition to that on the preceding species). From some directions the elytra appear to have a trilobed basal black or infuscate mark (common to both), and each with a large suboblong median blotch and a smaller subapical one, parts of the sterna are infuscated, but the rest of the under-surface and the appendages (except that the hind tibiae and three basal joints of hind tarsi are tipped with black) are flavous. In general appearance these specimens, at first glance, are apparently close to *humeralis*, but the abdomen and pygidium are different and the elytral markings are really very different. The other two specimens have the head and prothorax entirely flavous, and the only conspicuously dark parts of the elytra are two apical elliptic spots; the other markings of the typical form are vaguely indicated, but the golden pubescence is exactly the same. The appendages of all the specimens are somewhat clogged with gum, which I was unable to entirely remove, but they are apparently much as on the preceding species.

MORDELLA SERICANS, n. sp.

Black; parts of front legs and base of antennae obscurely reddish. Densely clothed with uniformly sericeous greyish pubescence, on some specimens with a purplish gloss on sides of elytra.

Moderately elongate. Scutellum small and semicircular. Pygidium short and conspicuously truncated. Antennae rather short, fifth to tenth joints obtusely subtriangular. Spurs to hind tibiae unequal. Length, $5-7\frac{1}{2}$ mm.

Hab.—South Australia: Tintinara, Ardrossan (J. G. O. Tepper), Quorn (Blackburn's collection). Type, I. 5880.

A moderately large species with uniform pubescence even on the abdomen, but on elytra sometimes darker on the sides,

although in some lights it is even pale there. In general appearance like very large specimens of *exilis*, but the antennae distinctly shorter and wider, the elytral pubescence (on some specimens, but not on all) darker at the sides instead of uniform throughout, and with a curious silken lustre that is quite absent from that species. From *baldiensis*, and all its varieties, it is distinguished by its narrower form, shorter and more obtuse pygidium, paler pubescence, and uniformly clothed abdomen. A few of the specimens have the tips of the abdominal segments diluted with red, and one has the abdomen almost entirely red. On all of them there are faint ridges on the hind tibiae, although they are much more numerous and much less distinct than in *Mordellistena*, and are confined to the edge. The pygidium is short and truncated, but as the scutellum does not angularly cut into the elytra the species has been referred to *Mordella*, rather than to *Tomoxia*.

MORDELLA TARSALIS, n. sp.

Pl. xv., fig. 133.

♂. Black; mandibles and palpi in parts, base of antennae, front legs, and middle femora more or less reddish. Densely clothed with uniform silken-grey pubescence.

Rather narrower and more parallel-sided than usual. Scutellum small. Pygidium not very long, somewhat obtusely pointed. Front tibiae stout and fringed with long hairs; front tarsi also fringed, the joints unusually large, wide, and lop-sided; spurs to hind tibiae unequal. Length, $4\frac{1}{4}$ -5 mm.

♀. Differs in having shorter and thinner front legs, and simple tarsi.

Hab.—Western Australia: Lake Austin (H. W. Brown). Type, I. 5864.

It may, later on, be considered advisable to refer this species to a new genus on account of the remarkable front tibiae and tarsi of the male; but without knowing more about exotic members of the family it does not appear desirable for me to do this; the basal joint of the front tarsi is almost as large as an eye, almost as wide as long, and with a greater portion to the outer than to the inner side, the second to the fourth joints are subtriangular and regularly decrease in size, the fifth is suboval. The pygidium at first glance appears to be deeply and narrowly notched, so that the apex resembles two narrow spikes, but this is really due to a narrow strip of whitish pubescence. The scutellum on most of the specimens before me is covered up by the basal lobe of the pronotum. The female in general appearance is very close to the typical form of *exilis*, but differs in being slightly

narrower and in the medio-basal lobe of the pronotum of not quite the same shape, etc.

MORDELLA CORVINA, n. sp.

Black; base of antennae and spurs to hind tibiae very obscurely diluted with red.

Short and compact. Scutellum transverse, but apex widely rounded and sides not angularly cutting into the elytra. Pygidium moderately long, apex rather acutely pointed. Antennae with fifth to tenth joints moderately wide. Spurs to hind tibiae very unequal, the longer about twice the length of the other. Length, $3\frac{1}{2}$ -4 mm.

Hab.—Queensland: Mount Tambourine (A. M. Lea). Type, I. 5927.

A compact species, in general appearance strikingly close to small specimens of *Tomoxia aterrima*, but scutellum with the hind angles rounded off and the pygidium longer and acutely pointed. From *M. tristis* it differs in being wider, medio-basal lobe of pronotum truncate instead of rounded, and in the pubescence. In some lights the entire clothing appears to be of a dead-black, but in others it appears to be a rusty-brown, and in still others to have a distinct and beautiful purplish gloss; the abdomen is without sharply-defined markings, but in some lights the sides and bases of the segments are seen to have pubescence somewhat paler than on the other parts.

TOMOXIA ATERRIMA, MacL.

The average length of this species is about 6 mm., but it varies from 3 to 8 mm. Although both the derm and pubescence of the upper-surface are of the deepest black, specimens in perfect condition have a satiny lustre. On some specimens the pubescence of the upper-surface has an evanescent greenish gloss, either over the whole of the surface, or confined to the lateral and sutural portions of the elytra.

TOMOXIA APICATA, Lea (formerly *Mordella*).

This species is a *Tomoxia*, as the scutellum has the hind angles almost rectangular and conspicuously cutting into the base of the elytra; the pygidium, although long, is truncate at the tip. It appears to be allied to *flavicans*, but differs from the description of that species in having the elytral pubescence uniform to near the tip, instead of with "a transverse band across the middle" as well as the apical dark part. It occurs on the northern coastal rivers of New South Wales as well as in Southern Queensland.

TOMOXIA MELASOMA, n. sp.

Black, in some lights with a vague bluish iridescence. Upper-surface with white hairs scattered singly; base of pygidium, sides of mesosternum, and sides and middle of basal segment of abdomen with white pubescence.

Short and compact. Scutellum transverse, sides somewhat oblique but angularly cutting into elytra. Pygidium moderately long, but tip obtuse, although not truncated. Spurs to hind tibiae unequal. Length, $5\frac{1}{2}$ -6 mm.

Hab.—Queensland: Cairns (E. Allen).

As the scutellum quite conspicuously cuts into the bases of the elytra the species has been referred to *Tomoxia*, although the pygidium is not abruptly truncated, a character which readily distinguishes it from *aterrima*, of which at first it appears to be a variety; the two specimens regarded as typical have numerous white hairs scattered singly on the upper-surface, but denser on the head than elsewhere, and their speckled appearance is somewhat suggestive of *Mordella ignota*, but the white hairs are snowy-white, and the scutellum is larger and conspicuously cuts into the elytra. The pale spot on each side of the base of the abdomen is very distinct, but there is also a feeble spot on each side of the other segments.

A specimen of this species, but without the speckled appearance of the types, was mounted on the same card as the type of *Mordella nigrans*, but it differs from it in being without elytral markings, scutellum larger and cutting into the elytra, and spurs to hind tibiae longer. A specimen from the Coen River (H. Hacker's No. 381) agrees with the Macleay Museum specimen in its pubescence, and they both have the elytra somewhat more narrowed posteriorly than on the types, and the iridescence of the upper-surface more conspicuous.

TOMOXIA HOWENSIS, n. sp.

Black, with a vague bluish iridescence. Sides of sterna and of basal segment of abdomen with conspicuous white pubescence; the other abdominal segments feebly spotted at the sides.

Rather narrow for the genus. Scutellum transverse, angularly cutting into elytra. Pygidium long but tip truncated. Antennae with fifth to tenth joints wide. Spurs to hind tibiae unequal. Length, $7\frac{3}{4}$ mm.

Hab.—Lord Howe Island. Type in Australian Museum.

This species is referred to *Tomoxia* rather than *Mordella*, as the pygidium, although long, is truncated at its tip, a character which will readily distinguish it from *Mordella*

inornata, to which at first glance it appears to belong. In some lights the elytral pubescence appears to be of a rusty-brown, and that on the scutellum greyish.

TOMOXIA EXOLETA, n. sp.

Black. Pubescence obscurely variegated.

Rather short and compact. Scutellum with sides oblique but angularly cutting into elytra. Pygidium short, its tip truncated. Spurs to hind tibiae unequal. Length, $3\frac{3}{4}$ -4 mm.

Hab.—North-western Australia. Type, in Macleay Museum; co-type, I. 6018, in South Australian Museum.

A dingy-looking species, in general appearance close to some varieties of *Mordella baldiensis*, but with the pygidium and scutellum of a *Tomoxia*; apart from the clothing it is distinguished from *aterrima* by the scutellum being longer, with the hind angles obliquely cut off instead of almost rectangular, and consequently less conspicuously, although distinctly, cutting into the elytra. The general pubescence is of a dingy yellowish-grey (becoming somewhat ashen and moderately variegated on the abdomen), but on some specimens is almost black, with, in certain lights, a vague purplish gloss; on some specimens very vague oblique lines on the elytra may be traced, but not at all approaching those of *6-lineata*. There were six specimens in the Macleay Museum, but of these five had their heads partly or entirely destroyed by museum vermin.

TOMOXIA MELANURA, n. sp.

Black; palpi, base of antennae, and parts of four front legs reddish. Densely clothed with silken-grey pubescence, except on tips of elytra, and for an obscure spot towards each side of each abdominal segment.

Moderately elongate. Scutellum short, sides oblique. Pygidium short and conspicuously truncated. Antennae with the fifth and following joints rather wide. Spurs to hind tibiae very unequal. Length, 4-4 $\frac{1}{4}$ mm.

Hab.—Queensland: Cairns district (F. P. Dodd). Type, I. 5926.

Like *apicata* on a greatly reduced scale, but pygidium wider and more conspicuously truncated at tip, and scutellum with the hind angles more rounded off and consequently less conspicuously cutting into the elytra, clothing of under-surface more uniform, and parts of four front legs reddish. From some directions the pubescence on the pronotum appears to be uniformly pale, but from others three dark spots (typical of the smaller species of *Mordella*) are vaguely indicated.

MORDELLISTENA.

I have regarded the numbers of ridges on the hind tibiae and on the two basal joints of the hind tarsi of the species of this genus as of specific importance, and they are practically the only characters by which the close allies of *austrina* may be distinguished with certainty, as the other differences in the general outlines, of the pygidium, colour, and clothing are of a comparative nature. On the third tarsal joint the ridges, although sometimes distinct, are so close together, and often so feeble, that they are not to be relied upon. A small amount of grease may obscure the others also, and it is to be noted that the ridges occur only on one side (although usually traceable as serrations along the upper edge). With the hind legs broken off, or the ridges in any way obscured, it would be quite impossible to identify with certainty several allies of *austrina*.

MORDELLISTENA AUSTRINA, Champ.

The original description of this species was founded upon two specimens from Darwin and Tasmania; but specimens may be beaten in abundance from drying leaves of fallen trees in many parts of Australia. In the description the hind tibiae are noted as having "a short basal and two elongate oblique ridges"; the ridges vary considerably in length and degree of obliquity, but on all the specimens before me it is the sub-apical ridge that is short, the two ridges on the third tarsal joint are sometimes so close together that they appear as but one. The length varies from 3 to 6 mm. (inclusive of the pygidium). I have seen no specimens with a distinct "transverse infusate band across the middle" of the pronotum, but many specimens have a few slight stains almost amounting to spots there.

Var. 1. Numerous specimens from Cairns and one each from Magnetic Island, Mount Tambourine, and Darwin differ from the typical form in being paler, and with the elytra more parallel-sided; the pubescence appears to be also slightly shorter.

Var. 2. A single specimen from Cairns has the head (muzzle excepted) black, and pronotum with a few infusate spots.

Var. 3. Two specimens from the Victorian Alps have the pygidium shorter and less acute than usual, and the shoulders and suture with pubescence of a more golden tone than on the rest of the elytra.

Var. 4. Two small ($2\frac{3}{4}$ -3 mm.) specimens from Cairns have the general outlines of Var. 1, but have the body-parts almost (parts of the head and pronotum quite) black, and

their pubescence in some lights appears to have a vague greenish gloss.

All these varieties (and there are others before me) have the hind tibiae with three oblique ridges, the basal joint of the hind tarsi with three, the second with two, and the third (although these are sometimes ill-defined) also with two.

MORDELLISTENA BRUNNEIPENNIS, Macl.

Some time ago in referring this species to *Mordellistena*, from *Mordella*, I stated that it was possibly the same as *austrina*, but this is not the case, and it is really a very distinct species. It is unusually elongate, black, the elytra flavous, with the sides and suture narrowly infuscated. The oblique ridges of the hind tibiae and tarsi of the type are somewhat obscured by dirt, and the tip of the abdomen and of the pygidium are broken off.

MORDELLISTENA CONCOLOR, Lea.

A specimen of this species, with somewhat paler hind spurs than on the type, was in the Blackburn collection, from Oodnadatta.

MORDELLISTENA FLAVICANS, Macl. (formerly *Mordella*).

The type of this species is without its hind tarsi, but is undoubtedly a *Mordellistena*, as the hind tibiae have three conspicuous oblique black ridges. The apparent dark portion of its elytra consists of a subovate infuscate blotch touching the tips, but not the sides; but after a careful examination I am satisfied that it is simply due to the folded black wings showing through the semitransparent derm. There are eleven other specimens in the South Australian Museum (all from the Cairns district) which appear to have the tips of the elytra feebly infuscated, and one with the apparent markings of the type, but on lifting up their elytra the apparent infuscation is clearly seen to be due to the wings. These specimens have two oblique black ridges on each of the basal joints of the hind tarsi; the longer spine on the hind tibiae is fully twice the length of the other and about three-fourths the length of the basal joint of the tarsi. The pygidium is very thin and slightly longer than the hind tarsi. The size varies from $2\frac{1}{4}$ to $3\frac{1}{2}$ mm.; Macleay gave the length of the type as 1 line, but that was exclusive of the pygidium.

MORDELLISTENA OBSCURIPENNIS, Macl. (formerly *Mordella*).

The type of this species has three oblique black ridges on the hind tibiae, three on the basal joint of the hind tarsi,

and two on the second; the spurs to its hind tibiae are similar to those of *flavicans*, except that the longer one is not quite twice the length of the other. In general appearance it is like an enlarged specimen of *longipes*, but on that species the black ridges on the hind tarsi are two in number on the first joint and one on the second.

MORDELLISTENA TIBIALIS, n. sp.

Castaneous, parts of appendages somewhat paler.

Long and rather thin. Scutellum small and semicircular. Pygidium (for the genus) rather short and somewhat obtusely tipped. Antennae long and thin. Hind tibiae with spurs of unequal length, with five oblique black ridges, basal joint of hind tarsi with four, second with three, third with two ridges. Length, $4\frac{3}{4}$ -5 mm.

Hab.—North-western Australia: Fortescue River (W. D. Dodd); New South Wales: Sydney (Macleay Museum). Type, I. 5948.

In general appearance close to *austrina*, but distinguished from that, as from all the other dingy species, by the hind tibiae having five oblique ridges; of these the sub-basal one is short and the subapical one is so close to the apex that it needs to be looked for, but from some directions all five are sufficiently distinct, the three median ones are considerably shorter than in *austrina*. The pubescence is extremely short, and has a vague silken appearance; on the shoulders and suture it is slightly paler than elsewhere, on the rest of the elytra in certain lights it has a feeble purplish gloss; on the head it appears to be parted in the middle. A single specimen was seen from each locality.

MORDELLISTENA ABACETA, n. sp.

Piceous-brown, almost black; sides of prothorax and of elytra, muzzle, parts of under-surface, and hind legs paler, antennae and four front legs still paler. Pubescence of a uniform silken-grey.

Shape much as in preceding species, but pygidium somewhat longer and thinner. Antennae long and thin. Hind tibiae with spurs very unequal, with four oblique black ridges; basal joint of hind tarsi with three, the two following joints each with two ridges. Length, $3\frac{3}{4}$ mm.

Hab.—Queensland: Cairns district (A. M. Lea). Type (unique), I. 5950.

A small dark species, in general appearance very close to some forms of *austrina* (especially Var. 4), but with four ridges on the hind tibiae. The elytra (including their pubescence) when viewed directly from behind appear to be

quite black, but with the sides and suture narrowly diluted with red.

MORDELLISTENA COELIOXYS, n. sp.

Castaneous.

Pygidium long and acute. Antennae long and thin. Hind tibiae with very unequal spurs, the longer more than twice the length of the other; with four oblique black ridges, basal joint of hind tarsi with four, the two following joints each with two ridges. Length, 4-6 mm.

Hab.—Queensland: Mount Tambourine; New South Wales: Sydney (A. M. Lea).

In general appearance strikingly close to *austrina*, but with the ridges on the hind legs different; the sub-basal ridge on the hind tibiae is very close to the second, and is indistinct from some directions, although sufficiently distinct from others. The pubescence is very similar in colour to the derm on which it rests. On one specimen the sterna and disc of pronotum are obscurely infuscated; the specimen from Sydney is much paler than the others (almost flavous), and was taken from a tussock of grass.

MORDELLISTENA MULTILINEATA, n. sp.

Of a rather dingy castaneous, parts of sterna obscurely infuscated.

With the general shape of *austrina*. Pygidium long and acute. Antennae long and thin. Hind tibiae with spurs very unequal, with three oblique black ridges; basal joint of hind tarsi with four, the following with two ridges, the third without any. Length, $5\frac{1}{2}$ mm.

Hab.—New South Wales: Acacia Creek (H. J. Carter). Type (unique), I. 6019.

The oblique lines on the elytra, if constant, should render the species easy of recognition; but in any case, the curious disposition of the ridges on the hind legs should be distinctive. The pubescence has mostly a somewhat silken appearance, but on the pronotum three vague dark spots are indicated from certain directions; on each elytron there are four slightly oblique lines on which the pubescence is paler than on the adjoining parts, and as that on the suture is also pale the elytra from directly above have a nine-lined appearance; seen directly from behind, however, the pubescence appears blackish, and the lines are scarcely indicated.

MORDELLISTENA MELVILLENSIS, n. sp.

Piceous-brown or castaneous, some parts obscurely variegated.

With the general shape of *austrina*. Pygidium rather long and very acute. Antennae long and thin. Hind tibiae with very unequal spurs, the longer more than twice the length of the other, with three oblique black ridges, the two basal joints of the hind tarsi each with two ridges. Length, $4\frac{1}{2}$ - $5\frac{1}{4}$ mm.

Hab.—Northern Territory: Melville Island (W. D. Dodd). Type, I. 5949.

Rather close to *austrina*, but elytra more parallel-sided, pygidium more acute, and ridges on hind legs different. From the description of *aspersa* it differs in having the first joint of the hind tarsi with but two ridges, and somewhat in the colour and pubescence; the latter is very similar to the derm on which it rests. There are three specimens in the Museum, of which two are males and piceous-brown, with the muzzle, sides of prothorax, and parts of hind legs obscurely diluted with red, the other legs being paler; the female is castaneous, but with the under-surface and disc of pronotum somewhat infuscated; the antennae of all three are blackish, but with the basal joints paler.

MORDELLISTENA ATRONITENS, n. sp.

Black, with a conspicuous bluish iridescence; tip of muzzle, palpi, base of antennae, front legs (wholly or in part), and spurs of hind tibiae more or less reddish.

Rather elongate. Scutellum small and semicircular. Pygidium long and very thin. Antennae rather long and thin. Hind tibiae with very unequal spurs, the longer about twice the length of the other, with three oblique ridges. Length, 3 - $3\frac{1}{4}$ mm.

Hab.—Queensland: Cairns district (F. P. Dodd and Macleay Museum). Type, I. 5900.

A black but beautifully iridescent species, differing from the non-iridescent Western Australian *concolor* in its thinner (almost hair-like) pygidium. The pubescence is mostly black, but on the head, base and apex of pronotum, base of elytra, and parts of under-surface it is more or less greyish. Owing to the colour of the hind tarsi I have not been able to see their oblique ridges clearly, but there appear to be three on the first joint and two on the second.

MORDELLISTENA TRICHURA, n. sp.

Black; spurs to hind tibiae obscurely flavous. With black pubescence, becoming greyish on parts of elytra and of under-surface.

Rather long and thin. Scutellum minute. Pygidium long and very thin. Antennae long and thin. Hind tibiae

with spurs very unequal, the longer fully twice the length of the other; with three oblique ridges, of which the subapical one is very short. Length $2\frac{3}{4}$ -3 mm.

Hab.—Northern Queensland (Blackburn's collection): Hughendon (A. M. Lea). Type, l. 5890.

In general appearance strikingly close to the following species, but the pygidium is considerably longer and much thinner, the apical portion being almost hair-like. On both specimens in the Museum the greyish pubescence on the elytra forms two rather obscure fasciae: a wide basal one and a fairly wide postmedian one, the latter on one specimen is somewhat advanced along the suture towards the other: viewed directly from behind, however, both specimens appear to have entirely black elytra. Owing to the black colour of the hind tarsi I cannot see their oblique ridges clearly, but there appear to be two on each of the two basal joints.

MORDELLISTENA CASTIGATA, n. sp.

Black; muzzle, palpi, base of antennae, front legs, and spurs to hind tibiae more or less obscurely reddish or testaceous; each elytron with an obscure, oblique, reddish humeral vitta. With silken-grey pubescence, somewhat variegated on elytra.

Structurally close to the preceding species. Pygidium long and thin. Spurs to hind tibiae very unequal. Length, $2\frac{1}{2}$ mm.

Hab.—Queensland: Mount Tambourine (A. M. Lea). Type (unique), I. 5901.

I have not been able to see the ridges on the hind legs clearly, but on the tibiae they appear to be three in number, of which only the median one is long and distinct; there appear to be two ridges on the basal joint of the tarsi, and one on the second. The pubescence on the elytra is very similar to that of the preceding species, but the fasciate markings are less sharply defined; the basal one almost conceals the humeral vittae, but these are very conspicuous from some directions.

MORDELLISTENA CONCINNA, n. sp.

Pl. xv., fig. 118.

Black; tip of muzzle, parts of abdomen, antennae, palpi, four front legs, and parts of others more or less reddish, each shoulder with a conspicuous, oblique, flavous vitta.

Structurally close to the preceding species. Hind tibiae with three oblique ridges, of which the subapical one is very short; basal joint of hind tarsi with three ridges, of which one is very feeble, second joint with one distinct ridge (or

with two so close together that they appear as one). Length, 2 mm.

Hab.—Queensland: Cairns district (F. P. Dodd). Type (unique), I. 6001.

Close to the preceding species, and with a similar pygidium, but smaller, elytral markings much more conspicuous, legs paler, and ridges of the hind ones more distinct. At first glance it appears very close to *Mordella distincta*, but the hind legs have the conspicuous ridges of a *Mordellistena*. The pubescence on the head and pronotum is greyish, on the elytra it is darker, except on the humeral vittae, and for a conspicuous postmedian fascia. A single specimen was found adhering to a sticky seed of *Pisonia Brunoniana*. The seed was soaked in turpentine, and the specimen came off in perfect condition.

MORDELLISTENA FUSCULA, n. sp.

Piceous-brown; muzzle, antennae, and legs (parts of hind pair excepted) paler.

Thin and subparallel. Scutellum small and semicircular. Pygidium long and acute. Antennae long and thin. Hind tibiae with spurs long and subequal, with three oblique black ridges, the subapical one very short, basal joint of hind tarsi with three ridges, the two following joints each with one. Length, $2\frac{1}{2}$ -3 mm.

Hab.—Lord Howe Island. Two specimens beaten from leaves (A. M. Lea). Type, I. 5902.

In general appearance like small and narrow specimens of *fusca*. A second specimen is smaller than the type and considerably paler, being (except for black parts of the hind legs) almost uniformly testaceous, or of a dingy flavous. In certain lights the elytral pubescence appears to form a conspicuous V, the V moving upwards from tip to base of elytra as the point of view is altered; on the pronotum a U similarly alters its position; the pubescence, however, is practically uniform throughout.

MORDELLISTENA PULCHERRIMA, n. sp.

Flavous; elytra slightly infuscated about scutellum, with an infuscate median fascia (darker on the sides than about the suture) and the apex tipped with black, mesosternum lightly infuscated. Pubescence golden, except on the dark parts.

Thin and subparallel-sided. Scutellum minute. Pygidium acute, but (for the genus) rather short. Antennae long and thin. Hind tibiae with three conspicuous black ridges, two long and one short. Length, $2\frac{3}{4}$ mm.

Hab.—Northern Territory: Darwin (G. F. Hill). Type (unique), I. 7608.

The hind tarsi are missing from the type, but the species is so extremely distinct that it has been described.

RHIPIDOPHORIDAE.

RHIPIDIUS MOLLIPES, n. sp.

♂. Of a rather dingy flavous; head blackish, elytra and abdomen more or less deeply infuscated. Rather densely clothed with short greyish pubescence, on upper-surface sub-erect.

Head small, basal portion subtriangular and densely punctate. Eyes large, coarsely faceted, almost meeting behind antennae and close together in front of them. Antennae with first joint stout and subtriangular, second very short and strongly transverse, the sides acute, third as wide as second, of irregular shape, the apex concave, fourth-tenth very short, each with a very long ramus, eleventh as long as rami. *Prothorax* evenly convex, at base twice as wide as the median length, sides obliquely strongly narrowed to apex, which is truncate; with dense punctures. *Elytra* short, conspicuously separated at their bases, rather evenly narrowed to apex, which is far from apex of abdomen, each with a wide obtuse ridge from shoulder to beyond the middle; punctures much as on prothorax. *Abdomen* wide and flat. *Legs* flat. Length, $3\frac{3}{4}$ mm.

Hab.—Queensland: Kuranda (F. P. Dodd). Type, I. 5921.

It is with considerable hesitation that this species is referred to *Rhipidius*. Both Gerstäcker and Lacordaire describe the claws of the typical species as simple; I have not been able to see the claws of the present species clearly, as they are obscured by hairs, and it is difficult to get them in a satisfactory position for examination under a compound power without breaking up the type. Each claw appears to be acutely bifid at apex, and with serrations towards the base, but quite possibly the supposed serrations are really setae; the claws, however, are certainly not simple. Blackburn has described another species from Australia (the type and only known specimen of which is in the British Museum) with claws that are not simple. But the curious antennae, large eyes almost meeting both in front and behind the antennae,⁽²⁷⁾ large labial and apparent absence of maxillary palpi, and

(27) Gerstäcker's figure of the head of *pectinicornis* will give a good idea of that of the present species.

abbreviated elytra conspicuously separated at their base, certainly indicate that if not a true *Rhipidius* it is at least extremely close to that genus. From *pectinicornis* it differs in being paler and opaque, head larger, with longer antennal rami (although their supporting joints are shorter), and legs wider and flatter, with the articulations of the tarsi much less conspicuous. The antennal rami are almost the length of the elytra, and, owing to the shortness of their supporting joints, have the appearance as of all starting from the concave apex of the third joint. Owing to the distance between the elytra part of the metanotum is exposed, and is seen to be rather densely punctate and shining; all the rest of the upper-surface is opaque. Owing to the flatness of the legs and to their clothing they have a curiously soft appearance.

RHIPIDIUS PECTINICORNIS, Thunb.

Some years ago I took a pair of this species under bark of a Casuarina tree at Hobart; they were in company with a cockroach, and, being unaware at the time that the female of the species was apterous, I thought the female was a larval form, and placed it in a small tube of spirits, which evaporated, and the specimen shrivelled up beyond recognition. The male was compared and agreed with a European specimen in the Macleay Museum labelled as *pectinicornis*.

EMENADIA.

This genus may be easily identified by the acutely-pointed elytra of all its species, their claws strongly bifid at apex, and their antennae biflabellate in the male. But although the genus is distinct many of the species are extraordinarily variable in size and markings; at first glance some of the specimens that have been placed together look so utterly different, that their specific association appears absurd, but with long series the connecting forms are quite evident. Blackburn regarded the colour of the head as a reliable feature, but I have previously pointed out that this is not the case, and long series of several species confirm my opinion. The structural features that more readily lead to the identification of the species are the medio-basal lobe of the pronotum, the second joint of the hind tarsi, and the punctures of the head.

EMENADIA NOVAEHOLLANDIAE, Gerst.

The medio-lateral spot on each elytron of this species is always conspicuous and usually rounded; the apical mark may cover the whole apex, except for the narrowly elevated and reddish margins and suture, but occasionally the reddish

sutural marking encroaches upon it, so that there appears a blackish spot obscurely separated from the acute black tip. The medio-basal elevation of the pronotum is always conspicuous, and has the same curious broken-off appearance as in *cucullata* and *semipunctata*. The length varies from 4 to 9 mm. It was recorded originally from New Holland; specimens in the Museum are from South Australia (Monarto, Oodnadatta, and Ooldea) and Western Australia (Cue and Geraldton).

EMENADIA TRICOLOR, Gerst.

Two females before me agree well with the original description of this species, except that the femora and tibiae are entirely reddish, and that on one of them the hind coxae are blackish, the irregular pale fascia covers about half the length of the elytra, and the interruptions at suture and sides are but slight; the second joint of the hind tarsi is longer than wide, and less conspicuously three-sided than on most species of the genus. Another female agrees well with Waterhouse's description of the colour of the male, except that less of the legs are reddish; still another female has more of the legs red, and the whole of the base (narrowly) and sides of prothorax dark red. All these specimens (as were also those of Waterhouse's) are from the Swan River; the type was from New Holland. Waterhouse considered the differences in colour to be sexual, but the specimens before me indicate that they are individual, and I believe he was quite right in associating the specimens he described with *tricolor*, although Blackburn (who had never seen a specimen of *tricolor*) thought to the contrary.

Three other females also appear to belong to the species, but are considerably smaller ($4\frac{1}{2}$ - $5\frac{1}{2}$ mm.), one of them has the head entirely red, with the black parts of the elytra consisting of a narrow basal edging, and an obscure stripe from the middle to the apex; the second specimen has the upper part of the head black, the basal edging of the elytra conspicuous, but the lateral markings reduced to an infusate median blotch; the third specimen has the upper part of the head black, and the elytral markings reduced to a narrow basal edging, narrowly continued along the sides to the basal third; the first specimen has the hind coxae entirely pale, the second and third have them partly dark.

EMENADIA MACULICOLLIS, Boh.

There are seven specimens before me (five from Sydney, one from New South Wales, and one from Victoria) that appear to belong to this species; of these three are females and have the medio-basal lobe of the pronotum lightly but

distinctly notched, the others are males and the lobe is truncate; they vary in length from $6\frac{1}{2}$ to 11 mm. On two of the females the head (except for part of the mandibles) is entirely red, on the other its hind slope is infuscated. On the type the prothoracic markings were apparently disconnected spots, but on the specimens before me they are all connected together, but all in a different way, thus on one specimen the black mark has four extensions to near the apex, on the second specimen there are but three (owing to the two median ones becoming conjoined), on the third there are but two (owing to the disappearance of the lateral ones); on all three specimens there are two black extensions to near the base. The elytra are also variable in colour, on two of them the base is narrowly black, and there is a large subtriangular black spot about the middle of each, the space between being flavous, at the sides of and behind the black spots the derm is of a similar shade of red to that of the pronotum; on the third specimen the black parts are all connected so as to enclose two comparatively small flavous spots. The black parts of the under-surface also vary. The four males have the head, prothorax (tips of hind angles excepted), under-surface, and legs (parts of tibiae and of tarsi excepted) black, the elytra also are black with a large subflavous spot on each towards the base, the spots on two specimens touching neither sides nor suture; on the third touching the sides but not the suture; but on the fourth combined to form a wide fascia extending from side to side.

Three females (from Mackay) also appear to belong to the species; they are small ($4\frac{1}{4}$ -7 mm.) and all differ in colour; the largest specimen has the hind slope of the head black, the black prothoracic blotch in three disconnected parts, of which two are large oblong spots, extending from near the middle to near the base, the median part has an extension from each of its sides to near the apex; there is a small blackish spot on each elytron at the base, and the postmedian spot is smaller and more elliptic than on the Sydney specimens, with the space beyond it of a more diluted red than the pronotum. The smallest specimen has the basal half of the head black, the pronotum black except for the sides and three disconnected basal spots; the elytra (as are also those of the third specimen) are much as on the largest of the three. The third specimen has the head, prothorax, under-surface, and legs entirely of a rather pale castaneous.

All these specimens have the second joint of the hind tarsi as noted under *punctulaticeps*. I think it extremely probable that the type of *interioris* (now in the British Museum) was one of the varieties of *tricolor*.

EMENADIA INTERIORIS, Blackb.

A female (from Sydney, in coll. Lea) agrees well with the description of this species, except that the abdomen is partly black; the legs of the type were not specially mentioned; on the Sydney specimen the femora and coxae are black, the other parts being of a dark red.

Another specimen (from Caloundra, in the Queensland Museum) agrees perfectly in structure with the Sydney specimen, but differs in colour of legs and under-surface; the elytra are narrowly black at the base, except that the shoulders are red, and each has a large subtriangular median black spot, the space at its sides and between it and the apex being of the same shade of red as the shoulders, between the spot and the black base the colour is almost flavous; less of the sterna and abdomen are black, and the femora are black only at the apex. This specimen appears to connect *interioris* with *maculicollis*.

EMENADIA CUCULLATA, Macl.

Var. *pictipennis*, Lea.

From an examination of sixteen specimens I am convinced that the form named *pictipennis* is only a colour variety of *cucullata*. The following forms are before me:—

1. Elytra entirely black.
2. Each elytron with one reddish spot, the spot usually rather obscure.
3. Each elytron with two reddish spots, the spots obscure on some specimens, very distinct on others, and gradually increasing till they are conjoined (Form 4).
4. On this form the two pale markings are considerably enlarged and conjoined, and enclose a large dark spot; the apex of the elytra is also pale; the other parts of the elytra vary from quite black to dark reddish-brown (as on the types of *pictipennis*).

All the specimens of Forms 1 and 2 are females, all of Form 4 males, of Form 3 there are both sexes. The feature used by Blackburn to distinguish the species in his table of the genus, "Prothorax bearing a longitudinal median carina," is sometimes very feeble, and should not be relied upon.

EMENADIA DIVERSICEPS, Blackb.

On this species, which is widely distributed in South Australia, the medio-basal lobe of the pronotum is either lightly notched or truncate. Four specimens from New South Wales (Sydney, Galston, Forest Reefs, and Bindogundra) and one from Western Australia (Darling Ranges) differ from some co-types, and other South Australian specimens, in having the

elytra with punctures quite as crowded about base as elsewhere, instead of sparser and larger there; two of them have the extreme base of prothorax and sides of elytra near base obscurely reddish. They all have the beautiful bluish iridescence noted in the original description.

EMENADIA PUNCTULATICEPS, Blackb.

On the hind tarsi of this species the second joint is slightly longer than wide, and has a three-sided appearance, the upper side being bounded by acute ridges, the lower sides meeting in a rounded ridge at the middle, the joint being somewhat similar to that in *diversiceps*. The species occurs in Western Australia (Beverley) and New South Wales (Galston and Sydney) as well as in South Australia, and a specimen from Victoria agrees perfectly with the variety described by Blackburn. One specimen from Sydney is unusually small (7 mm.), and has a rather small, rounded, subflavous spot on the middle of each elytron at about the basal fourth.

EMENADIA NIGROAPICALIS, n. sp.

♀. Bright castaneo-flavous; apical two-fifths of elytra, metasternum (except epimeron), antennae (except two basal joints), and legs (except claws) black, part of muzzle and base of elytra infuscated.

Head with scattered and not very large but sharply-defined punctures, becoming crowded between bases of mandibles, labrum long and thin. *Prothorax* longer than wide, front half rapidly sloping downwards, medio-basal lobe conspicuously elevated and transversely notched; with fairly numerous shallow punctures. *Elytra* each with a wide, deep, and (except posteriorly) impunctate impression from base to near apex, elsewhere with fairly numerous punctures, but becoming sparser about base. Second joint of hind *tarsi* slightly thicker, but otherwise much the same as third. Length, 10-12 mm.

Hab.—Western Australia: Ankertell (H. W. Brown); South Australia: Ooldea (Capt. S. A. White and A. M. Lea). Type, I. 5912.

Differs from *novae-hollandiae* in the absence of elytral spots, by the prothoracic punctures being much smaller and sparser, and by the elytral punctures being more evenly distributed on the sides. The hind angles of the pronotum from above seem rather acute, but from perpendicular to themselves they are seen to be rectangular. The medio-basal lobe of the pronotum has the same curiously broken-off appearance, and

the elytra are very acute, as in *novae-hollandiae*, *semipunctata*, and *cucullata*. The four species may be thus distinguished:—

Prothorax entirely black.

Elytra with dense punctures throughout ... *cucullata*

Elytra with dense punctures only on black parts ... *semipunctata*

Prothorax entirely pale.

Elytra with apex only black ... *nigroapicalis*

Elytra with black postmedian spots as well ... *novae-hollandiae*

EMENADIA RUFOFASCIATA, n. sp.

♂. Colour variable, but elytra always with a broad, sub-basal, and more or less reddish fascia.

Head polished and impunctate except between bases of mandibles, where the punctures are fairly numerous and rather sharply defined, although small. *Prothorax* longer than wide, hind angles very little divergent, medio-basal lobe rather wide and obtusely pointed, not notched; with shallow and rather sparse punctures, becoming more numerous on sides. *Elytra* each with a rather shallow longitudinal impression; punctures moderately dense and oblong, with a laminated appearance posteriorly. Second joint of hind *tarsi* about once and one-half as long as wide, subtriangular in transverse section. Length, $4-6\frac{1}{4}$ mm.

♀. Differs in having second-tenth joints of antennae serrate instead of biflabellate, sides of mesosternum more convex (although not visible from above), legs slightly shorter, and front *tarsi* narrower.

Hab.—North-western Australia (Macleay Museum); Queensland: Mackay (C. French, from R. E. Turner), Cairns (E. Allen), Brisbane (H. Hacker, in Queensland Museum); New South Wales (Macleay Museum), Jenolan (J. C. Wiburd). Type, I. 5922.

In many respects close to *difficilis*, but the pale portion of elytra in the form of a transverse fascia, instead of (when the elytra are not entirely pale) longitudinal markings. Of the nine specimens before me no two are coloured exactly alike, but they all agree in having a wide fascia commencing near the base of the elytra, and terminating about the middle; on some specimens it is no longer than the basal black portion, but on others it is thrice as long, it is without interruption from side to side and is of a more or less bright red, but on some specimens almost flavous; the legs, except for the tibial spines, and the claws are sometimes entirely black, but on some specimens many parts are reddish; the basal joints of the antennae are reddish, the other parts

more or less blackish. Excluding the elytra and the appendages the colours of the specimens are as follows:—

1. Head (upper half black), prothorax, mesosternum (except epimeron), and abdomen reddish, other parts black. Type.

2. Like 1, but apical half of abdomen black.

3. Like 1, but head entirely red, and apical two segments of abdomen black, metasternal epimeron red.

4. Head, prothorax, mesosternum (but middle somewhat infuscated), metasternal epimeron, and abdomen (tip excepted) red, other parts black.

5. Like 4, but upper half of head black.

6. Mesosternum and metasternum entirely black, other parts red.

7. Head (small parts of muzzle excepted), prothorax (apex and base narrowly excepted), and under-surface (parts of prosternum and mesosternum excepted) black.

8. Like 7, but head obscurely reddish, and with an obscure dark fascia between eyes and another on vertex, and prothorax (except at base) entirely dark. In Queensland Museum.

9. Black, except for parts of mandibles and a narrow flavous edging at base of pronotum. On this specimen the elytral fascia is narrower and more flavous than usual.

On all the specimens the black parts have a more or less conspicuous bluish iridescence.

EMENADIA LAEVICEPS, n. sp.

♀. Reddish-castaneous; apical two-fifths of elytron and a small part of base, antennae (basal joints excepted), and most of legs black or blackish.

Head shining and with minute scattered punctures, but becoming dense between bases of mandibles; a shallow depression in middle between antennae. Antennae with third-tenth joints strongly serrated. *Prothorax* with sides very feebly increasing in width from apex to about middle, and then rather more strongly to base, medio-basal lobe wide, its tip truncate; with shallow, moderately dense, and fairly large punctures. *Elytra* each with a rather shallow longitudinal impression; with dense punctures on basal half, becoming crowded and with a laminate appearance posteriorly. Upper-surface of second joint of hind *tarsi* about twice as long as wide, subtriangular in transverse section. Length, $6\frac{1}{2}$ -11 mm.

Hab.—Northern Queensland (Blackburn's collection). Type, I. 5913.

The markings of the upper-surface are much like those of *nigroapicalis*, but the medio-basal lobe of the pronotum is very different; structurally it is close to *maculicollis*. Another female (6½ mm.), from North-western Australia, has the legs almost entirely pale. Both specimens have a vague bluish iridescence.

EMENADIA CRASSIPES, n. sp.

♂. Black; part of mandibles and a narrow strip between their bases, basal joints of antennae, sides, and hind angles of prothorax, tibiae, and most of tarsi deep red; elytra variegated.

Head with numerous distinct but not very large punctures on vertex, becoming crowded and subasperate in front. *Prothorax* parallel-sided for most of its length, but with hind angles conspicuously diverging, medio-basal lobe rather wide and lightly notched; with crowded sublunate punctures. *Elytra* each with a shallow longitudinal impression, punctures crowded and sublunate posteriorly, not quite so dense towards base. Hind *tibiae* stout and noticeably dilated towards apex; basal joint of hind tarsi stout and with coarse punctures, second joint transverse and subtriangular in transverse section. Length, 7 mm.

Hab.—Queensland: Stradbroke Island (J. H. Boreham). Type in Queensland Museum.

The colour (which everywhere has a beautiful bluish iridescence) is somewhat suggestive of some males of *maculicollis*, but the hind tibiae are stouter, and the hind tarsi are very different, the first joint being rougher and the second transverse; on that species the second joint is distinctly longer than wide. The elytra of the type are black at the base, then have a wide flavous fascia, followed by a black space bounded at the sides and followed by a deep red colour, but the entire lateral margins are narrowly reddish.

A female from the Swan River (A. M. Lea) agrees so well with the type in structure that it probably belongs to the same species, but it differs considerably in colour, the lower half of the front part of the head (and a short projection backwards), parts of the mandibles, two small oblong spots on the front part of the pronotum, part of the sides, large patches of the mesosternum and of the metasternum, part of the basal segment of abdomen, claws, tibial spurs, parts of the hind tibiae and tarsi, and two basal joints of antennae are more or less red, all other parts being black. In general appearance it is close to *punctulaticeps*, but (apart from colour differences) the punctures of the head are not so dense between the eyes, and the hind legs are very different. Its length is 11 mm.

EMENADIA SETIPENNIS, n. sp.

♂. Black; two basal joints of antennae, palpi, and parts of legs reddish, elytra flavous, a narrow part at the base, the suture very narrowly, and the apical sixth blackish.

Head polished and with very minute scattered punctures, but becoming somewhat crowded between bases of mandibles; back slope finely rugose. *Prothorax* with sides very feebly increasing in width to near base, but hind angles more noticeably (although not strongly) diverging, medio-basal lobe rather wide, its tip truncate: with fairly large, shallow, and moderately dense punctures. *Elytra* each with a rather shallow longitudinal impression; punctures fairly dense about base, becoming crowded and sublaminar posteriorly. Second joint of hind *tarsi* transverse in cross section, its upper-surface fully twice as long as wide. Length, 5-6 mm.

Hab.—Northern Queensland (Blackburn's collection): Brisbane, February, 1916 (H. Hacker, in Queensland Museum). Type, I. 5915.

There is a beautiful rainbow-hued iridescence on both specimens, and the short blackish setae on the elytra are more noticeable than on most species of the genus. On the type the hind angles and the median lobe of the pronotum are very narrowly tipped with red, and parts of the mandibles are obscurely red; the obscurely-reddish parts of the legs are the greater portions of the front ones, parts of hind tibiae and tarsi, and all the tibial spurs. The specimen from Brisbane has the four hind legs missing, but the front femora and tibiae are black, the tarsi obscurely reddish; its elytra have more of the apex and less of the base black, and the suture scarcely infuscated.

EVANIOCERA.

In tabulating the species of this genus Blackburn noted the males of three species as having nine rami to each antenna, and two others as having eight; to the first group also a fourth species was afterwards added. As a matter of fact, the rami for the groups should be regarded as eight and seven in number, as he counted the long terminal joint of each antenna as a ramus; the rami in the first group commence with the third joint, and in the second group with the fourth.

EVANIOCERA NERVOSA, Gerst.

The dark lines on the elytra of this species are much more conspicuous on some specimens than on others. The size ranges from $6\frac{1}{4}$ to 9 mm. On the female the antennae are thin, the third joint is very little longer than the second (from some directions the third appears to be distinctly longer than the second, but from almost every point of view it

appears decidedly shorter than the fourth), the serrations of the fourth-tenth joints are less pronounced than usual in females of the genus, and the eleventh is almost as long as the three preceding combined.

Hab.—South Australia: Tanunda; New South Wales; Queensland: Somerset.

Two females from Western Australia (Swan River and Coolgardie) may belong to the species, but are much larger (12-12½ mm.), the prothorax is wider than on most of the other females, and has a conspicuous median line in front (of which there is not a trace on the males and scarcely a trace on other females). On one of them the derm of the elytra is quite black, and it is very dark on the other.

EVANIOCERA PRUINOSA, Gerst.

E. gerstäckeri, Macl.

Two males were standing under the name of *pruinosa* in the Blackburn collection, and they agree with the original description, except in being smaller (4½-5 mm.); they also agree with the specimens I have previously commented upon as agreeing with the types of *gerstäckeri*. The species may be readily distinguished from all others of the genus by the curiously mottled clothing, especially of the female. On the female the third joint of the antennae is rather long and subcylindrical, and the seven following joints are strongly serrated; between the eyes there is a conspicuous, longitudinal, sublanceolate, highly-polished space, of which there is not a trace in the male. The length ranges from 3½ to 7 mm. in the male, and from 4¼ to 12 mm. in the female.

Hab.—New South Wales: Sydney, Jenolan, Tamworth; Queensland: Aloomba, Cairns.

EVANIOCERA MEYRICKI, Blackb.

The males of this species before me (I have not seen the type, which is probably in the British Museum) differ slightly in colour, the mandibles of some being darker than on others, and the prothorax is usually no paler at the sides than on the disc. Their hind tibiae have a curious pubescent groove, bounded by fine carinae, on the under-surface from about the basal fourth almost to the apex, but this is invisible from above or from the sides. The eyes are separated to a less degree than in *pruinosa*, but to call them "approximate" is misleading. The length ranges from 5 to 8½ mm. The female (unknown to Blackburn) has a long, shining, semidouble ridge between the eyes; the antennae have the third joint rather long, and the seven following ones strongly serrated; it differs

from the female of *pruinosa* in being wider, shining median space on head of different shape, and with small but distinct punctures; and elytral clothing as on its own male, instead of mottled.

Hab.—Western Australia: Karridale, Geraldton; New South Wales: Galston, Armidale, Blue Mountains.

EVANIOCERA PERTHENSIS, Blackb.

The derm of the elytra of this species varies from a rather dingy piceous-brown to almost flavous, with the suture (narrowly) and sides (narrowly to rather widely) blackish. The length varies from 3 to 6 mm., and the species occurs in South Australia (Karoonda to Peebinga), as well as in Western Australia.

A female (it is the only four-eyed female in the Museum) from Lucindale evidently belongs to the species; it is piceous-black (parts of the appendages and tips of the abdominal segments excepted), almost uniformly clothed with greyish pubescence, and the antennae non-flabellate.

EVANIOCERA MINUTA, Blackb.

There were two specimens (sexes) of this species in the Blackburn collection from Northern Queensland, but they differ from the type in being smaller ($2\frac{1}{2}$ -3 mm.): both specimens have the elytra somewhat paler than on the type, and with the suture as well as the outer margins somewhat paler.

EUCTENIA SERICEA, Gerst.

There are before me eight specimens belonging to two forms—the first, named as *sericea*, in the Macleay Museum; the other, also so named, in the Blackburn collection. They are strikingly alike in general appearance, but the differences noted below are quite distinct:—

Form 1.

Head with a rather wide, shallow, semidouble, median line from between eyes to vertex, where it vanishes.

With a short, shining, median line in front (sometimes scarcely traceable).

Gently depressed between eyes.

Prothorax with a shallow discal impression towards base, and with a shallow one on each side of base.

Length, 8-9 $\frac{1}{2}$ mm.

Form 2.

Median line commencing some distance behind eyes, and continued over vertex (from behind the vertex appears bilobed).

Without a shining line in front.

Gently convex between eyes.

Prothorax flat at the position of the discal impression of Form 1.

Length, 9-11 mm.

Form 2 is also a trifle wider than Form 1, the antennary tubercles are more pronounced and shining, and the prothoracic punctures are rather more noticeable, owing to the less density of the clothing. On both forms the legs vary somewhat in colour; sometimes all the femora are as pale as the tibiae and tarsi, sometimes the front pair of femora, or the two front pair are deeply infuscated; on not one of the eight are the hind femora dark. The antennae also could not fairly be called black, although the amount of infuscation varies.

Of Form 2 there is a female before me; it closely resembles the male, except that the abdomen is larger and more convex, that the legs are somewhat shorter, and that the antennae are non-flabellate, joint three is about once and one-half the length of four, the fifth is triangularly produced on one side, and the produced part gradually elongates, till on the tenth it is much longer than the supporting base, the eleventh is slightly longer than the tenth with its produced part.

A female from the Dandenong Ranges agrees closely in structure with the female of Form 2, but has the elytra and abdomen much darker; at first glance almost as dark as the prothorax.

Form 3. There is in the Queensland Museum another form, from Brisbane, that differs in being still wider than Form 2, the antennal rami longer, quite black, and the five basal joints almost black, the median line on the head is intermediate between Forms 1 and 2, and the prothorax has a narrow median line, traceable (except for a slight interruption) from apex to base, and becoming rather deep near base.

Form 1 agrees closest with the original description; the other forms are perhaps deserving of subspecific names, but at present it appears preferable to simply number them. Two of the specimens of Form 1 are labelled as from New South Wales, and one of Form 2 as from King George Sound. The type was from New Holland.

The males of the genus may be thus distinguished:—

Long antennal rami commence on the fifth joint ... *occidentalis*
Long rami commence on the sixth joint.

Separation of eyes more than length of first joint

of antennae *sericea*

Separation about equal to length of second joint *fusca*

Eyes almost touching *megalops*

EUCTENIA MEGALOPS, n. sp.

♂. Piceous-brown, some parts almost or quite black; antennae, palpi. and claws castaneous, mandibles partly red.

Densely clothed with short brownish pubescence, becoming greyish on scutellum, under-surface, and legs.

Head with basal portion curvilinearly triangular, and with small dense punctures. Eyes large, almost touching both above and below. Antennae with first joint stout, almost as long as three following combined, second and third moderately, fourth strongly transverse, fifth with a short produced portion on one side, sixth to tenth each with a long ramus, eleventh as long as ramus of tenth. *Prothorax* with sides strongly diminishing in width to apex, which is not half the width of base, median line faint at base and apex, but conspicuous and somewhat dilated in middle; punctures as on head. *Elytra* slightly wider than prothorax, sides regularly decreasing in width posteriorly, each with four feeble longitudinal elevations. Length, 10-13 mm.

♀. Differs in being rather more robust, abdomen larger, legs somewhat shorter, and antennae with none of the joints transverse, the third almost twice the length of second and distinctly longer than fourth, fifth slightly shorter than fourth but at tip slightly wider, sixth to tenth strongly serrated, eleventh distinctly longer than tenth, and with a slight projection at its middle.

Hab.—Western Australia: Murchison (— Phillipson), Coolgardie (C. White), Mullewa (Miss J. F. May). Type, I. 5798.

In general appearance strikingly close to *occidentalis*, but the long rami of the antennae start on the sixth joint instead of on the fifth. Sometimes the whole of the under-surface and legs are castaneous. The only female before me has two feeble depressions on the disc of the pronotum, but from some directions they appear quite conspicuous, owing to their clothing being slightly different in disposition to that on the adjacent parts; on some of the males there are slight traces of these depressions. Two specimens from Coolgardie and Nullabor Plains (from the Blackburn collection) evidently belong to this species, but their antennae are broken off short.

EUCTENIA FUSCA, n. sp.

♂. Black, claws and flabellate joints of antennae reddish. Densely and uniformly clothed on upper-surface with brown pubescence, becoming brownish-grey on under-surface and legs.

Head with basal portion strongly convex and curvilinearly triangular. Eyes large and rather close together. Antennae with first joint stout, as long as the three following combined, second transverse and longer than third, third slightly longer than fourth, the latter fully twice as wide as long, fifth with

a short produced piece on one side, sixth to tenth each with a long ramus, eleventh as long as ramus of tenth. *Prothorax* with a vague depression in middle, and a still more vague one on each side of same. *Elytra* each with four feeble longitudinal elevations. Length, 10-11½ mm.

Hab.—Queensland: Winton (— Higgins). Type in Queensland Museum; co-type, I. 5924, in South Australian Museum.

With the general appearance and outlines of the preceding species, and also with the long antennal rami commencing on the sixth joint, but differs from that species in the eyes being wider apart (their distance at the nearest point is about equal to the length of the second joint of antennae), five basal joints of antennae darker than the others, and the mandibles and under-surface entirely black. In general appearance this species even more closely resembles a *Trigonotomoides* than does *occidentalis*, but its head is quite as distinctly elevated above the front of the prothorax as is that of that species. The punctures on the upper-surface are very dense and small, but are normally concealed by the clothing.

PELECOTOMOIDES.

With the exception of the typical species (*conicollis*), in which the differences in the antennae are great, I am unaware, apart from dissection, as to how the sex of unique specimens of this genus may be determined. With several species there are slight differences in the size and approximation of the eyes, and very slight differences in the width of the front tarsi and of the antennae, but these are not available to distinguish single specimens. Gerstäcker referred the species known to him to two sections:—

1. Antennae with four basal joints simple, or narrower than the others. *nuda*, Gerst.
2. Antennae with five basal joints simple, or narrower than the others. *senilis*, Gerst.; *lutea*, Gerst.; *sericea*, Gerst.

Of these *nuda* is commented upon below; *sericea* should be distinct by the prothorax with "foveola disci sat profunde impressa," and *senilis* by the very short third joint of antennae; *lutea* is evidently a very small and ordinary-looking species that might be any of several species in the Museum, including some named by Macleay.

In addition to the species here described there are others (mostly from Queensland) in the Museum that are probably new, but at present it appears better to pass them over rather than to risk redescribing several imperfectly-characterized species.

PELECOTOMOIDES NUDA, Gerst.

Two specimens from the Swan River (the type was from New Holland) probably belong to this species, but they differ from the description in having the elytra, femora, and tibiae black; their size (9-10 mm.) is almost equal to that of the type (5 German lines). The following combination of characters distinguishes them from the specimens of all other species before me:—More parallel-sided than usual, clothing of upper-surface unusually short and sparse (certainly not due to abrasion and quite justifying the specific name), head with a median line from vertex to a shallow depression in front of eyes, these rather widely separated, antennae with third joint distinctly longer than first, sixth-eleventh conspicuously reddish, the sixth-tenth distinctly shorter than the fourth or fifth, and about the same width at apex; pronotum with medio-basal lobe widely rounded, a shallow depression before it, hind angles not embracing shoulders; elytra densely granulate ("alutaceis" of Gerstäcker) and each with four feeble longitudinal elevations.

PELECOTOMOIDES NIGROLATERALIS, n. sp.

Piceous-brown, appendages paler. Densely clothed with short pubescence, pale on upper-surface, except for a wide black patch on each side of elytra; under-surface and legs with ashen pubescence, but variegated with dark spots at sides of sterna and of abdomen.

Antennae with third joint about once and one-half the length of fourth, fifth-tenth moderately serrated, fifth slightly wider than fourth, and conspicuously wider than third. *Prothorax* with sides strongly rounded and converging to apex, which is not half the width of base; without discal depressions. *Elytra* closely applied to prothorax, and regularly diminishing in width to apex, where each is separately rounded. Length, 7-9½ mm.

Hab.—Queensland (National Museum, from C. French), Cairns district (E. Allen, F. P. Dodd, and H. Hacker).

An abundant and strikingly-distinct species, with elytral markings very different to those of any previously-described ones, but with the general outlines of *marmoratus*, *mastersi*, and several other species named by Macleay. A pair from Mr. Hacker (his No. 67) are marked as having been taken *in cop.*, but I can find no sexual distinctions. The colour of the derm varies somewhat, as on some specimens most of the upper-surface is very dark (almost black), whilst on others it is no darker than the under-surface; usually the abdomen is slightly paler than the sterna, the five basal joints of antennae are paler than the following ones. The pale pubescence on

the upper-surface frequently has a golden lustre, but it varies to stramineous or ashen; the dark elytral pubescence is so disposed that the paler clothing at the base and on the suture forms an ornamental T; the dark pubescence on most of the specimens is quite black, but on others varies to a golden-brown, but always leaving a conspicuous T; it is narrowly advanced on each side to the extreme base; the pale sutural pubescence is quite regular and parallel-sided till it abruptly disappears at about one-sixth from the apex. The pubescence on the scutellum is usually darker than on the adjacent parts, and there is sometimes a slight stain on the pubescence towards the middle of the base of the pronotum.

On the head, prothorax, and elytra of this, as also of the following species, the punctures are very dense and minute, but concealed except where the derm is exposed.

PELECOTOMOIDES HACKERI, n. sp.

Blackish, parts of antennae and of legs of an obscure brown. Densely clothed with short pubescence, greyish on head, prothorax, scutellum, and on a wide subtriangular basal portion of elytra, black on the rest of elytra, greyish on under-surface and legs.

Antennae moderately stout, third joint almost as long as fourth and fifth combined, these subequal in length, but fifth slightly wider than fourth, sixth-tenth rather strongly serrated. Length, 7-8 mm.

Hab.—Queensland: Buderim Mountain, April, 1912 (H. Hacker). Type in Queensland Museum; co-type, I. 5923, in South Australian Museum.

Another very distinct species, although the general outlines are almost exactly as on the preceding one, but the third to fifth joints of antennae are somewhat differently proportioned, and the elytral clothing is different. The black pubescence on the elytra (although uniformly dark) has a curiously mottled appearance, and in some lights a dark rusty-brown gloss; it leaves a subtriangular space at the base (extending from the shoulders to the suture at about the basal fourth) on which the pubescence is similarly coloured to that on the prothorax, and is exactly alike on the four specimens under examination.

CANTHARIDAE.

ZONITIS LONGICEPS, n. sp.

Flavous; tips of elytra, antennae, palpi, tarsi (claws excepted), apical half of tibiae, and tips of femora black or blackish. Upper-surface (except parts of elytra) glabrous, under-surface and appendages finely pubescent.

Head very long and thin; with irregularly-distributed and moderately numerous, sharply-defined punctures. Eyes strongly notched, obliquely subreniform, distance between their nearest points slightly less than length of first joint of antennae. Antennae rather long and thin, first and third joints equal in length and very little longer than second. Palpi long and thin. *Prothorax* distinctly longer than wide, basal half with sides gently rounded, then strongly narrowed to apex, without foveate impressions and with median line but vaguely impressed; punctures much as on head. *Elytra* much wider than prothorax, parallel-sided to near apex; with dense, round, sharply-defined punctures, in places feebly confluent, but not rugose. *Legs* long and thin. Length, 8 mm.

Hab.—Northern Territory: Darwin (H. Wesselman). Type (unique), I. 6139.

At first glance quite an ordinary-looking species, but readily distinguished from all other species known to me by its remarkably long head; this is fully thrice as long as the distance across its widest part. It differs from the description of *carpentariae* in having the labrum pale, only a small portion of the apex of elytra dark, head with not very sparse and rather coarse punctures, third joint of antennae very little longer than second, elytra rather strongly punctate and without raised lines.

ZONITIS BREVICEPS, n. sp.

Bright reddish-flavous: palpi, tarsi (claws excepted), tibiae, and tips of femora black. Finely pubescent, elytra almost glabrous.

Head rather wide and short: with minute scattered punctures, becoming somewhat denser but scarcely larger in front. Eyes large, widely separated, rather lightly notched in front and still more lightly behind. Maxillary palpi rather short, labial still shorter. *Prothorax* distinctly transverse, sides lightly increasing in width from near base to beyond the middle, and then strongly rounded to apex; with small and not very dense, but somewhat irregularly-distributed punctures. *Elytra* not much wider than widest part of prothorax, parallel-sided to near apex; with crowded and rugose but not very large punctures, smaller and less rugose about base than elsewhere; each elytron with four distinct but feebly-elevated lines. *Legs* not very long. Length, 24 mm.

Hab.—Queensland: Kuranda (H. W. Brown). Type (unique), I. 6140.

At first glance the upper-surface appears to be glabrous, and the elytra (except for a slight amount of pubescence at

the sides) are really so; but when viewed from the sides the head and prothorax are seen to be supplied with very short erect pubescence; on the under-surface the pubescence is longer on the metasternum than elsewhere. Only two joints are remaining of each antenna, they are both black, but the base of the first is reddish, the first is rather short (scarcely more than half the length of the second tarsal joint), but about twice the length of the second. There are several shallow depressions on the pronotum, but these may be due to irregular contractions of the derm. Each claw is irregularly serrated or multidentate from the base to the apical third, and is then suddenly narrowed and sweeps round in an even curve to the tip; the membranous appendage starting from the base of each is very conspicuous.

This species, perhaps, should have been referred to a new genus, but with both antennae broken off near the base it is not desirable at present to propose one: the species, however, is such a fine one that it is desirable to name it.

OEDEMERIDAE.

The table of Oedemeridae given by Blackburn (*ante*, 1899, p. 73) is unsatisfactory; "AAA" used for *Pseudolycus* only, whilst sufficient to distinguish most species as belonging to that genus, would exclude the males of several species which, by the table, could only be referred to *Copidita*. The comparative length of the head and shape of the eye are much the same in several species of *Ischnomera* and *Dohrnia*, but for the former are given as "Head short, eyes somewhat round," and for the latter "Head more elongate, eyes more oblong"; these being, practically, quotations from Champion's notes on *Dohrnia*.⁽²⁸⁾ The antennae of *Techmessa ruficollis* are quite as long and about the same thickness as those of *Ischnomera sublineata*, but in the table those of *Techmessa* are noted as "more robust and considerably shorter" than those of *Ischnomera*.

The maxillae when dissected out are seen to each have three appendages, the inner to be densely pilose on its inner edge, the outer to be having several joint-like portions all densely pilose,⁽²⁹⁾ and a four-jointed palpus; the inner lobe is always concealed from above, but the outer lobe is often visible from above, and then causes the head to appear to be supplied with three pairs of palpi; the basal joint of the palpus is small and indistinct or concealed, but the apical

(28) Trans. Ent. Soc., 1895, p. 246.

(29) With specimens mounted on cardboard this hairy portion is often matted with gum and concealed from above.

joint is large and often (especially in the males of *Danerces* and *Copidita*) curiously formed.

It is probable that many species are overlooked by collectors, as they are usually to be found in company with, and greatly resemble species of *Malacodermidae* that occur in great abundance. Although many of the species are extremely variable in their colours, there are some which strongly resemble each other, and yet may be distinguished by profound differences in sculpture (in this, again, there is a parallel with *Malacodermidae*).

By the courtesy of the Curator of the Australian Museum I have seen Macleay's types of the family and a few other species. Mr. H. J. Carter also sent for examination his collection of the family (including types), and Mr. J. A. Kershaw sent specimens belonging to the National Museum.

I am acquainted with all the species of the family recorded from Australia except the following:—

1. *Oedemera bivittata*, Boi. There are several species of *Oxacis* and *Copidita* before me that agree with the very brief description of this species. The late Rev. T. Blackburn guessed that it might have been founded upon the species subsequently named *Copidita bipartita* by Champion (unknown to him, as it is to myself). But it seems best (as suggested by him) to disregard the name.

2. *Oedemera brevicornis*, Boi. The original description of this species, "*Nigra, thorace foveolato; elytris subruguloso-pilosis*," combined with the implication from its specific name, will fit only *Ischnomera sublineata* of the *Oedemeridae* before me. Without the implication of its name it would also fit the black variety of *Techmessa ruficollis*. But it would be absurd to identify any species, as *brevicornis*, without additional particulars to those of the original description.

3. *Asclera mansueta*, Newm. When describing *Dohrnia miranda* Newman commented upon "*Asclera mansueta*, a widely-distributed New Holland species, which is familiar to all collectors." The original locality given was Australia. I have not, to my knowledge, seen *man'sueta*, and it was not represented in the Blackburn collection. The only species under examination with four black prothoracic spots in the positions noted—"2 *minoribus anticis distantibus*, 2 *majoribus positivis subapproximatis*"—is *Copidita litoralis*, of which I have seen a fair number of specimens from Tasmania and King Island, and that species differs from the description in having the elytra not black but metallic-green, and with more than two of the antennal joints longitudinally divided in colour.

[Since the above was written Mr. Blair, of the British Museum, has written that the type of *mansueta* is unique in that institution, and in the Register is noted as from "New Holland, north and north-west coast"; he has also supplied the following description:—"Eyes wide apart, rather more so than in *atkinsoni* (now referred to *Ischnomera*), not very prominent. Head behind antennae greenish-black, front part testaceous with piceous labrum. Thorax reddish-testaceous with two pairs of dark spots, one smaller lateral at about $\frac{1}{3}$ length, other larger dorsal at about $\frac{2}{3}$ length; also a pair of large round depressions on fore part of disc; finely and sparsely punctured. Elytra greenish-black with dense grey pubescence, densely and finely punctate. Underside (except prothorax) greenish-black with grey pubescence. Femora reddish-testaceous, fuscous at apex, tibiae and tarsi dark, the former paler towards base. Antennae incomplete, black, basal joints lighter, second joint half as long as third, the latter a little longer than first. Mandibles apparently pointed, not bifid; maxillary palpi, last joint widest in middle, about one and one-half times as long as broad." If the mandibles are really not simple, this description makes it clear that the species is really a synonym of *Copidita litoralis*, of which it has precedence; and probably the locality given (for *mansueta*) was wrong.]

4. *Copidita bipartita*, Champ. Evidently close to *torrida*, from which it apparently differs in the markings and more sharply defined costae of elytra. As it was from Roebuck Bay it is extremely improbable that it was founded upon *Oedemera bivittata* (a guess of Blackburn's).

5. *Pseudananca ruficollis*, Blackb. The type of this species was unique in the Blackburn collection, and is now in the British Museum. It was referred to the *Oedemeridae* with doubts, and is the smallest Australian species referred to the family. There is nothing approaching the description in any of the collections of *Heteromera* to which I have had access.

Following is a catalogue of the described Australian species; when the species is given in Masters' Catalogue his numbers, given in parentheses, have been considered sufficient references up to the date of that catalogue:—

PSEUDOLYCUS, Guer.: Ann. Soc. Ent. Fr., 1833, p. 155; Lacord.: v., p. 708; Champ.: Trans. Ent. Soc. Lond., 1895, p. 247; Blackb.: Trans. Roy. Soc. S. Austr., 1899, p. 84.

HAEMORRHODALIS, Fab. (*Lycus*, 4414); Champ.: *l.c.*, p. 247; Blackb.: *l.c.*, p. 85; Lea: Proc. Roy. Soc. Vict., 1907, p. 169. N.S. Wales; Vict.; Tas.; King Island.

var. *atratus*, Guer. (4411).

Oedemera luctuosa, Boi. (*Ananca*, 4405); Blackb.: *l.c.*, p. 85.

var. *cinctus*, Guer. (4412).

var. *marginatus*, Guer. (4415); Blackb.: *l.c.*, p. 86.

var. *rufipennis*, Cart.: Proc. Linn. Soc. N.S. Wales, 1905, p. 188.

HAEMOPTERUS, Guer. (4413); Blackb.: *l.c.*, p. 86. N.S. Wales; Vict.; Tas.: King Island.

var. *elegantulus*, Blackb.: *l.c.*, p. 86.

var. *puberulus*, Blackb.: *l.c.*, p. 87; Cart.: *l.c.*, p. 188.

var. *montanus*, Cart.: *l.c.*, p. 187.

VITTICOLLIS, Macl. (*Ananca*, 4409). Q'land.

HILARIS, Blackb. (*Copidita*): *l.c.*, p. 76. N.S. Wales; Vict.; Tas.

TORRIDUS, Blackb.: *l.c.*, 1901, p. 26. Q'land.

WALLACEI, Lea: Trans. Ent. Soc. Lond., 1908, p. 82. N.S. Wales.

MORPHOLYCUS, n. g.

APICALIS, Macl. (*Pseudolyceus*, 4410). Q'land: N.S. Wales.

AGASMA, Newm.: Zool., App., cxvi.; Lacord.: iv., p. 414; Lea: Trans. Ent. Soc. Lond., 1908, p. 250.

SEMICRUDUM, Newm. (3444). Q'land; N.S. Wales.

DANERCES, Westw.: Trans. Ent. Soc. Lond., 1875, p. 228; Lea: Proc. Linn. Soc. N.S. Wales, 1904, p. 100.

BICOLOR, Lea: *l.c.*, p. 100. Q'land.

TECHMESSA, Bates: Ann. and Mag. Nat. Hist., 1874 (4), xiii., p. 113; Champ.: Trans. Ent. Soc. Lond., 1895, p. 248; Blackb.: Trans. Roy. Soc. S. Austr., 1899, p. 84.

RUFICOLLIS, Champ.: *l.c.*, p. 248. N.S. Wales; Vict.; Tas.

NACERDES, Schmidt: Linn. Ent., i., p. 28; Lacord.: v., p. 705.

MELANURA,⁽³⁰⁾ Linn.: Fn. Suec., 1761, p. 205; Blackb.: Trans. Roy. Soc. S. Austr., 1899, p. 78. (*Introduced.*) N.S. Wales; Vict.; S. Austr.

PSEUDANANCA, Blackb.: Trans. Roy. Soc. S. Austr., 1893, p. 135.

RUFICOLLIS, Blackb.: *l.c.*, p. 135. N.S. Wales.

DOHRNIA, Newm.: Zool., 1851, App., p. cxxxiii.; Lacord.: v., p. 717; Champ.: Trans. Ent. Soc. Lond., 1895, p. 246; Blackb.: Trans. Roy. Soc. S. Austr., 1899, p. 77.

⁽³⁰⁾ Numerous synonyms are noted in Gemminger and Harold, p. 2171.

- MIRANDA, Newm. (4417); Champ.: *l.c.*, p. 246. N.S. Wales; Vict.; Tas.
Ithaca anthina, Oll.: Proc. Linn. Soc. N.S. Wales, 1888, p. 152.
BOISDUVALI, Blackb. (*Ananca*): Proc. Linn. Soc. N.S. Wales, 1893, p. 187; Trans. Roy. Soc., 1899, p. 77 (*Dohrnia*). N.S. Wales; Vict.; Tas.
Silis australis, Blackb.: Proc. Linn. Soc. N.S. Wales, 1891, p. 530.
var. *D. simplex*, Champ.: *l.c.*, p. 246.
EREMITA, Blackb.: Trans. Roy. Soc. S. Austr., 1899, p. 78. Vict.
ISCHNOMERA, Schmidt: Linn. Ent., i., p. 51; Lacord.: v., p. 712.
ATKINSONI, Waterh. (*Sessinia*): Cist. Ent., ii., p. 228. N.S. Wales; Vict.: Tas.
Asclera atkinsoni, Champ.: Trans. Ent. Soc. Lond., 1895, p. 244.
SUBLINEATA, Waterh. (*Sessinia*): Cist. Ent., ii., p. 229; Blackb.: Trans. Roy. Soc. S. Austr., 1893, p. 135. N.S. Wales; Vict.: Tas.
Asclera sublineata, Champ.: *l.c.*, p. 245.
MANSUETA, Newm. (4416). Austr.
COPIDITA, Lec.: New Sp. Col., 1866, p. 164; Champ.: Trans. Ent. Soc. Lond., 1895, p. 241; Blackb.: Trans. Roy. Soc. S. Austr., 1899, p. 70.
PUNCTA, W. S. Macl. (4407, *Oedemera*, W. S. Macl.; *Ananca*, Mast. Cat.): Lacord.: Atlas, pl. lx., fig. 1 (in error as *Pseudolyceus marginatus*); Champ.: *l.c.*, p. 242. Q'land; N.S. Wales; Vict.; Tas.; S. Austr.; W. Austr.
NIGRONOTATA, Boh. (4406); Champ.: *l.c.*, p. 242. N.S. Wales; Vict.; Tas.; S. Austr.; Lord Howe Island.
RUFICOLLIS, Macl. (*Ananca*, 4408). Q'land; N.S. Wales; S. Austr.
dentipes, Blackb.: *l.c.*, p. 77.
MACLEAYI, Champ.: *l.c.*, p. 242. Tas.
TORRIDA, Champ.: *l.c.*, p. 243. N.-W. Austr.; N. Terr.
BIPARTITA, Champ.: *l.c.*, p. 244; Blackb.: *l.c.*, p. 75. N.-W. Aust.
BALDIENSIS, Blackb.: *l.c.*, 1899, p. 73. N.S. Wales; Vict.
KERSHAWI, Blackb.: *l.c.*, p. 74. Vict.
SLOANEI, Blackb.: *l.c.*, p. 74. N.S. Wales; Vict.; S. Austr.
LANGUIDA, Blackb.: *l.c.*, p. 75. Q'land; N.S. Wales.

- PULCHRA, Blackb.: *l.c.*, p. 76. N.S. Wales; Vict.
 LITORALIS, Lea: Proc. Roy. Soc. Vict., 1907, p. 168.
 Tas.; King Island.
 OXACIS, Lec.: New Sp. Col., 1866, p. 165; Blackb.: Trans.
 Roy. Soc. S. Austr., 1899, p. 78.
 AUSTRALIS, Boi. (*Oedemera*, 4402); Blackb.: *l.c.*, p. 78.
 S. Austr.; Vict.
 LATERALIS, MacL.: Proc. Linn. Soc. N.S. Wales, 1887, p.
 325 (*Ananca*). Q'land.
 ZIETZI, Blackb.: *l.c.*, 1895, p. 56 (*Ananca*); 1899, p. 79.
 S. Austr.
 INQUISITOR, Blackb.: *l.c.*, p. 80. N.-W. Austr.
 ORNATIPENNIS, Blackb.: *l.c.*, p. 80. N.-W. Austr.
 CAVICEPS, Blackb.: *l.c.*, p. 81. N.-W. Austr.
 LINEARIS, Blackb.: *l.c.*, p. 82. W. Austr.
 OEDEMERA, Oliv.: Entom., iii., 1795, No. 50.
 BIVITTATA, Boi. (*Ananca*, 4403). Austr.
 BREVICORNIS, Boi. (*Ananca*, 4404). Austr.

PSEUDOLYCUS.

Several species of this genus are abundant in Australia and Tasmania, and vary in colour in exactly the same ways as species of *Metriorrhynchus* and *Trichalus*, of the *Malacodermidae*, do, and with which they are frequently associated on flowering shrubs; the exoskeleton is also somewhat soft as in the *Malacodermidae*, so that the apparent width of specimens appears to be subject to alteration as the specimens dry up. Several species of similarly-coloured longicornes may also be found in their company. As the *Malacodermidae* are usually much more abundant than the others, it is to be presumed that with the *Pseudolyçi*, etc., the resemblance is a protective one. In consequence of the great variation in colour and size several varietal forms have been named as distinct species, and several varieties have been noted by Champion and Blackburn. The colours of the new species have been described as they were found on the types, but it is very probable that, as with all others of which I have seen long series, they are variable, and not to be too much depended upon.

PSEUDOLYCUS HAEMORRHOIDALIS, Fab.

- Var. *atratus*, Guer. (*luctuosus*, Boi.).
 Var. *cinctus*, Guer.
 Var. *marginatus*, Guer.
 Var. *rufipennis*, Cart.

This is the most variable and abundant species of the genus in Tasmania, but it occurs also in New South Wales,

Victoria, and King and Flinders Islands. In both sexes⁽³¹⁾ the antennae have the second to seventh joints flat and strongly triangularly dilated, and the eleventh joint apparently divided into two (on many specimens the antennae appear to be truly twelve-jointed). The pronotum varies to a slight extent in comparative width, both sexually and individually,⁽³²⁾ and has a large irregular depression towards each side, and a subtriangular medio-basal one; the latter is bounded by two ridges that meet or almost meet about the middle, and these were used by Blackburn as the main dividing feature of the genus:—"A. Prothorax having two ridges, which diverge obliquely hindward from the middle of the median line enclosing a triangular depression (antennae unicolorous)."⁽³³⁾ In the figure by Champion the triangular space is rather too sharply defined, however. Blackburn referred three species to A, but I am convinced that all the specimens he so referred (these presumably are in the South Australian Museum and now before me), and all others before me that would be referred to A, belong to but one species.

In commenting upon *luctuosus* as a distinct species (but with elytra varying as those of *haemorrhoidalis*) Blackburn attached considerable importance to the basal joint of the hind tarsi being "invariably whitish-testaceous"; but the specimens before me vary from those having the basal joint entirely black to those having its base conspicuously pale (sometimes almost white): the clothing of the base also varies as its supporting portion.

A. Prothorax entirely black.

HAEMORRHOIDALIS, Fab. (typical). Entirely black except that the tips of the elytra are reddish (the reddish portion may be evenly curved or slightly encroached upon by the black tips of the elevated lines). This, although the typical form of the species, is rather rare; one specimen has the red advanced along the outer margins half-way to the base, but not along the suture; it was standing in the Blackburn collection with specimens of *marginatus*.

Var. ATRATUS, Guer. (*luctuosus*, Boisd.). An entirely black form (except that there is the usual variation in colour

(31) The subapical segment of the abdomen is conspicuously notched in the middle of its apex in the male.

(32) The prothorax is slightly longer in the male than in the female, but its length appears to alter on specimens according as to whether these have the prothorax closely applied to or partly free from the head and elytra; but usually the smaller specimens are narrower and with the prothorax less transverse than in the larger ones.

(33) The antennae are not always unicolorous, the lower parts of the three basal joints being sometimes pale.

of the basal joint of the hind tarsi). The type was from King Island (whence both Mr. J. A. Kershaw and I have taken it), but it occurs also in Victoria. After commenting⁽³⁴⁾ upon the exact agreement of the description of *luctuosus* with *atratus*, Blackburn nevertheless assumed⁽³⁵⁾ that it was a distinct species, closely allied to *haemorrhoidalis*, but differing in the colours of the hind tarsi, these not even being mentioned in the original description⁽³⁶⁾ of *luctuosus*; in any case (as above noted) the colour of the basal joint is not to be relied upon.

Var. *CINCTUS*, Guer. In this variety the suture (except close to the base), outer margins, and tips of the elytra are reddish, the red usually somewhat dilated on the shoulders and tips. It was described as from King Island, and the specimens before me are from King Island and Tasmania.

Var. *RUFIPENNIS*, Cart. This is the most abundant variety of the species, and the one figured by Champion as a variety of *cinctus*.⁽³⁷⁾ Both Champion and Carter described the elytra as being uniformly red (or ferruginous); on many specimens, however (and including the type⁽³⁸⁾ of *rufipennis*), the elytral suture is narrowly dark at the base, and sometimes is narrowly dark throughout. On the type of *rufipennis* the hind tarsi are entirely dark, but the lower parts of the three basal joints of antennae are not entirely black; on many other specimens of the variety, however, the antennae are entirely black, and the hind tarsi not so. A specimen from Mount Wellington has a fairly wide sutural space at the base conspicuously black, with the second costa for a short distance black, and the third lightly infuscated about the base. Two specimens from Hobart (taken *in cop.*) are rather more robust and the elytra more convex and paler than usual, but with the suture conspicuously black to well beyond the middle.

Var. *COSTIPENNIS*, n. var. A form is fairly common in Tasmania in which the costal elevations of the elytra (except

(34) *Ante*, 1899, p. 84.

(35) *L.c.*, p. 85.

(36) *Atra*, *thorace rugoso*; *elytris costatis*, *antennis complanatis*.

(37) In Champion's reference to *haemorrhoidalis* he described as a variety of that species a form having "the elytra with the apex, suture, and outer margins ferruginous" (this form is really typical of the variety *cinctus*); and he described as a variety of *cinctus* a form having "the elytra entirely ferruginous," this form being the one he figured (pl. vi., fig. 10), although the reference to the plate is apparently given for the variety of *haemorrhoidalis*. He, however, correctly assumed that they were all forms of one species.

(38) Kindly lent for examination by Mr. Carter.

the outer one on each side near the base) are entirely reddish, but the interspaces between the first and fifth are blackish, or at least deeply infuscated. This form varies towards *rufipennis* on the pale side, and towards *haemorrhoidalis* on the dark side; some of the connecting forms have the black in irregular blotches and partly occupying even the costae. A typical male of this variety was taken on Bruni Island *in cop.* with a typical female of *haemorrhoidalis*. Another specimen of it was taken on Flinders Island in company with one of *haemorrhoidalis*, and another of *rufipennis*.

AA. Prothorax not entirely black.

Var. *MARGINATUS*, Guer. This variety was described as the type of the genus (at least it was the first form referred to *Pseudolytus*, and the only one figured by Guérin), and represents another very variable section of the species, differing from the first by the prothorax being of two colours instead of uniformly black. It was described from Port Jackson, and the specimens before me were taken from Dorrigo (New South Wales) to the Victorian Alps. In commenting upon it Blackburn⁽³⁹⁾ said it was "a wider, more depressed, and more fragile-looking species than either of the preceding (*haemorrhoidalis* and *luctuosus*), but the only specimen in his collection bearing his name-label *marginatus*⁽⁴⁰⁾ is structurally like a rather thin form of *haemorrhoidalis*, and the original figure represents a thin form. Structurally specimens of this variety agree exactly with those of other varieties, and the slight variations in the shape of the prothorax are exactly paralleled in those varieties; but the basal joint of the hind tarsi appears to be invariably pale at the base.

1. The typical form of the variety has from the middle of the base of the pronotum a wide (often subtriangular) black space, extending to the apex; there is also a black space (sometimes in the form of an isolated spot) on each side; there is thus left a very irregular flavous, or reddish, vitta on each side, extending from the base to the apex. On the elytra the outer margins, apex, and suture (to a variable extent, I have not seen it pale throughout) are also pale. Some specimens of this form have elytra approaching those of *haemorrhoidalis*.

2. Two females are rather wider than usual, and with the reddish parts of the elytra confined to the tips (but slightly advanced along the elevated parts) and shoulders.

(39) *L.c.*, p. 86.

(40) There was, however, an unusually wide female of Form 2 of the variety in his collection, but without a label of any kind.

3. Like the variety *costipennis*, except that the prothorax is bicolorous.

4. Like the variety *rufipennis*, except that the prothorax is bicolorous. One specimen that might be referred to this form has the red areas of the pronotum greatly reduced in size and not extending to the base.

PSEUDOLYCUS HAEMOPTERUS, Guer.

Var. *elegantulus*, Blackb.

Var. *puberulus*, Blackb.

Var. *montanus*, Cart.

There is nothing in the original description of *haemopterus* to distinguish it from some forms of *haemorrhoidalis* (i.e., var. *rufipennis*, with the suture distinctly dark), but as Blackburn has identified a species as *haemopterus*, that agrees with the description and is certainly distinct from *haemorrhoidalis*, I shall presume his identification to be correct till proved to the contrary: But this species is also extremely variable in colour, and may be similarly divided into sections by the prothorax being unicolorous or bicolorous. The sexes are sharply defined by the antennae, those of the female having the third to fifth joints strongly, and the sixth and seventh moderately inflated, whilst in the male no joint is conspicuously inflated.⁽⁴¹⁾ The male has the apical segment of the abdomen strongly sculptured, while in the female it is simple; the male also is generally smaller and thinner than the female, and with the prothorax distinctly longer. Considerable variation occurs in the sculpture of the prothorax; there is generally (especially on the narrower forms) a conspicuous median carina extending from the apex almost to the base, but on many specimens not even extending to the middle; whilst on several specimens (especially the wider ones) it is represented by a flattened space only, a median carina being completely absent. There is always a large depression on each side towards the apex, and generally a smaller one (sometimes completely absent, or at least concealed by clothing) on each side of the middle of the base; the two sub-basal ones are occasionally connected together, and occasionally the two on each side are obscurely connected together. On all the forms the antennae have the eighth-tenth joints pale at the base (on the tenth the pale basal portion is often scarcely defined), and the eleventh semidouble, but apparently never quite distinctly divided into two joints,

(41) Blackburn correctly noted the sexual differences in the antennae, but these were incorrectly noted by Carter for *montanus*; there are several pairs (taken in cop.) before me.

as it frequently is in *haemorrhoidalis*. The type was somewhat doubtfully recorded from Australia; the specimens before me are from Queensland (Mount Tambourine), New South Wales (Bulli, Illawarra, Gosford, Forest Reefs, Galston, Sydney, Ben Lomond, Blue Mountains, Mount Irvine, and Mount Victoria), Victoria (Flinders, Jameson, Warragul, Warburton, Macedon,⁽⁴²⁾ Alps, and Dividing Range), and South Australia (Mount Lofty).

A. Prothorax entirely black.

HAEMOPTERUS, Guer. (typical). In his collection Blackburn had many forms correctly standing as one species, and of these two bear his name label *haemopterus*; these two are black, the elytra reddish, with a narrow black vitta on each close to the suture, and extending from one-third to two-thirds the length of the elytra, and slightly nearer the apex than the base; this form (of which there are nine specimens and both sexes before me) is here regarded as the typical one, as in the original description the elytra are described as being "*d'un jaune ferrugineux et la suture finement bordée de noir.*"

Var. MONTANUS, Cart. On this variety the elytra are black, with the apex, shoulders, and a narrow connecting line on the fifth (counting one on the suture) costa on each elytron reddish (the extreme outer margins from the base to beyond the middle are black, but from above the whole of the margins appear to be reddish).

Var. A, n. var. Numerous specimens differ from *montanus* in having the red of the fifth costa on each elytron extending a variable distance, but never to the base; and the shoulders not red. This form was commented upon (but not indexed in any way) by Blackburn, and he had at least four specimens of it.

AA. Prothorax not entirely black.

Var. PUBERULUS, Blackb. Apparently only one specimen (now in the British Museum) of this form was known to Blackburn, although he considered it would probably be variable. In general appearance typical specimens of the form are close to typical ones of *haemopterus*, except that the prothorax is reddish with a black trident-shaped mark (as viewed from the front); the middle tine of this appears to end in the scutellum, the lateral ones, from directly above, appear to end about the middle, but from the side each is seen to extend to the base. Numerous specimens of the variety before me vary from having strong impressions and a conspicuous median carina, to those in which (as on the type)

(42) Including the type of *montanus*.

the depressions are feeble and the median carina absent. The large reddish, densely-clothed spaces vary considerably in size, but apparently never quite meet at the base; on an occasional specimen they are obscurely connected with the apex, but on one female (from Forest Reefs) are widely continuous from base to apex. On another female (from Mount Tambourine) the patches are rather short, but the apex of the prothorax has two slight disconnected patches in line with the others: on this specimen also the elytra are without black vittae close to the suture, but the suture itself, adjacent to their positions, is black. A male (from Macedon) has the prothoracic patches much smaller than usual, with the depressions very conspicuous and the median carina unusually acute.

Var. *ELEGANTULUS*, Blackb. Only one specimen of this variety was known to Blackburn, but he considered it also would be variable. He relied upon the shape of the prothorax to distinguish it from others of the genus, but this is not to be relied upon. On the type the prothorax was described as having a black median vitta and a black spot on each side, and the elytra as being black with three narrow vittae: the suture and a stripe along the fifth (counting the sutural) costa on each elytron. Of this form I have seen but two specimens, both males, as was the type; three females have similarly-coloured elytra, but the entire apex of the prothorax is black with three lines proceeding from it, as on *puberulus*.

Var. B, n. var. 'Prothorax with two conspicuous reddish patches of variable extent, but leaving a trident-shaped black mark; elytra with shoulders, apex, and sides conspicuously red and part of the suture red. On this form the extreme margins of the elytra towards the base, as seen from the sides, are black, but the black is concealed from above. A male of the variety was taken *in cop.* with a female of *puberulus* by Mr. Carter, who also had another male of it mounted with another female of *montanus*. A female, from the Dividing Range, has similar elytra, but with the prothoracic markings reduced to narrow longitudinal vittae on the apical two-thirds, but not quite touching the tip. A male, from Dorriggo, has similarly coloured prothorax to the Dividing Range specimen, but the humeral and apical markings of the elytra are quite disconnected. Two females, from the Blue Mountains, have the reddish prothoracic patches unusually large, but not quite touching the apex, and the black parts of the elytra almost confined to parts of the interstices between the costae.

Var. C, n. var. A male, from Gosford, has the red prothoracic patches continuous from base to apex, and the

elevated parts of the elytra entirely pale, so that there appear to be four narrow infusate vittae extending from near the base to near the apex of each elytron: but the basal half of each lateral margin (not visible from above) is entirely black.

PSEUDOLYCUS WALLACEI, Lea.

In the original description of this species the first joint of the antennae was described as being "as long as the eye and much shorter" (*narrower*, of course, should have been used instead of *shorter*). The sutural costa on each elytron diverges from the suture near the base, and curves round to join in with the first discal costa at its base, and this character in itself is sufficient to distinguish it from all other species known to me, but the clothing of the abdomen is also very distinctive, and the eleventh joint of the antennae is not semidouble. Mr. Carter took three specimens (at Acacia Creek, in New South Wales) of the species, but they are all considerably smaller than the type and all different in colour. One of his specimens has the prothorax black, and elytra black except for a reddish streak on each side, commencing on the shoulder and ending on the side well beyond the middle; the others have the elytra entirely reddish, and the sides of the prothorax reddish with the dark discal portion dilating to the base; on one specimen the dark portion is black, but on the other it has a conspicuous purplish gloss.

PSEUDOLYCUS TORRIDUS, Blackb.

Only the type of this species (now in the British Museum) was known to Blackburn; but two, somewhat larger, specimens were taken by Mr. Hacker at Brisbane (his No. 466). The species is very distinct by the red middle of its pronotum and by its continuously flattened antennal joints (after the second); the eleventh joint is semidouble, but less conspicuously so than in *haemorrhoidalis*. There are also two specimens of the species in the Australian Museum from Wide Bay, and one of these has the median vitta of the pronotum considerably enlarged and the black basal markings with vermiculate encroachments of red.

PSEUDOLYCUS HILARIS, Blackb. (formerly *Copidita*).

In his table of the *Oedemeridae* Blackburn separated *Copidita* from *Pseudolycus* on account of the antennae, and further divided *Copidita* into the typical and three subsections; of these subsection 1 consisted of but one species, *hilaris*. Apparently of this species he had but two specimens (and one sex, the male) before him: the type (now in

the British Museum) and a co-type (now in the South Australian Museum), and these have rather thin antennae; the female has considerably stouter antennae, although no joint is conspicuously flattened, but a few of them are not quite cylindrical in section. Structurally the species appears to be a *Pseudolycus*, and I have no hesitation in referring it to that genus; it is to be noted that according to Blackburn's generic table the male of *P. haemopterus* would be referred to *Copidita*, and the female to *Pseudolycus*. The present species may be readily distinguished from all others of the genus by its shining glabrous prothorax, with three large depressions: a medio-basal one and a large one towards each side near apex, each of the latter encroached upon by a conspicuous black elevation; the apical joint of the antennae is semidouble, with the tip paler (sometimes not by much) than the base, the elytral suture (including that of the co-type) is narrowly black from the base to well beyond the middle. It is (for the genus) singularly constant in colour, of thirty-eight specimens before me (three others are noted as a variety, however), the only variations being to a slight degree in the tips of the antennae and in the lower parts of the basal joints: but one Tasmanian specimen has the base of the pronotum obscurely infuscated. The species is widely distributed, specimens under examination being from New South Wales (Dorrigo, Ben Lomond, Tamworth, Forest Reefs, and National Park), Victoria (Jameson), and Tasmania (Launceston, Devonport, and Ulverstone).

Var. *PICTIPES*, n. var. Three specimens (including both sexes, taken by Mr. Carter at National Park) differ from the common form in having the tip of the antennae no paler than the basal part (and in consequence the semidoubling less conspicuous), the suture no darker than the rest of the elytra, and all the tibiae pale except at their tips; they are also rather more conspicuously pilose between the eyes.

PSEUDOLYCUS VITTICOLLIS, MacL. (formerly *Ananca*).

There are two specimens of this species (including the type) in the Australian Museum, and they are of one sex (apparently female). The species belongs to that section of the genus containing *hilaris* and *carteri*, and in general appearance the specimens are like rather broad ones of the latter, but it differs in having the prothorax distinctly wider, the median vitta almost twice the width, and terminated before the apex; on one specimen the dark lateral marking on each side appears as a narrow margin just visible from above (this specimen is presumably the type); but on the other there is a conspicuous black vitta or macula on each

side in front, even more conspicuous than on *hilaris*; the elytra are wider than on *carteri*, the costae are more pronounced, and the sides are nowhere black or infuscated. The mandibles are bifid.

PSEUDOLYCUS CARTERI, n. sp.

♂. Black, shining, prothorax (a black median vitta excepted), and elytra (parts of the margins excepted) flavous-red. Moderately pubescent.

Head moderately convex between eyes; with dense and rather small but sharply-defined punctures. Antennae not very thin, no joint inflated, eleventh not semidouble. *Prothorax* slightly longer than wide, sides slightly dilated to near apex, with a wide shallow depression across apex, and a less distinct one towards base, at base with a deep but narrow impression; with dense, but more or less concealed punctures. *Elytra* much wider than prothorax; each with four discal costae, of which the third is traceable only beyond the middle, and the fourth (from above) appears to be marginal, suture costate to base; densely granulate-punctate. Length (♂, ♀), 7-9 $\frac{3}{4}$ mm.

♀. Differs in having stouter (but not flattened) antennae, somewhat shorter prothorax, wider elytra, apical segment of abdomen not triangularly incised at apex (as in the male), and somewhat shorter legs.

Hab.—New South Wales: Ben Lomond, November; Gosford, November (H. J. Carter). Type, I. 6665.

A very narrow species, in colour to a certain extent resembling some varieties of *haemopterus*, but the prothorax of very different shape and differently sculptured, the eyes much more prominent, and the eleventh joint of antennae not semidouble; its tip is paler than its base, but there is no false suture, as in *haemopterus* and most species of the genus. The female has distinctly stouter antennae than the male, much as in *hilaris* (except that the apical joint is simple), to which it is nearer than to any previously-described species (except *vitticollis*), but the prothorax is without the three large impressions of that species, being more undulated than excavated. The dark parts of the head, prothorax, and under-surface have a more or less conspicuous greenish gloss, the prothoracic vitta is almost parallel-sided, the dark parts of the elytra are entirely marginal and concealed from above, parts of the palpi, lower parts of some basal joints of the antennae, and the space on each side between the eye and mandible are obscurely pale; there is a dark spot on each side of the prothorax, but it is quite concealed from above. The specimen from Gosford is a male, and differs considerably

in colour from the type, the prothoracic vitta being more dilated to the base and the elytra black, except that the sides are pale from the shoulders (there half-way to the suture) to the apex, and continued very narrowly up part of the suture; its palpi are almost entirely pale.

PSEUDOLYCUS NIGER, n. sp.

♀. Black, opaque. Densely pubescent.

Head rather strongly convex between eyes; with dense and minute punctures. Antennae with third to seventh joints wide, flat, and triangularly dilated to apex, eighth flat, but decidedly narrower than seventh, ninth and tenth also flat but decreasing in width, eleventh conspicuously semidouble and slightly longer than tenth. *Prothorax* lightly transverse, sides widest near apex: with three large excavations: a medio-basal one and one towards each side in front, the latter somewhat larger and deeper than the former. *Elytra* much wider than prothorax; each with four rather obtuse, subcostal, discal elevations; surface partially concealed but finely granulate-punctate. Length, 11 mm.

Hab.—Queensland: Coen River (W. D. Dodd). Type (unique), I. 6651.

At first glance strikingly like the variety *atratus*, of *haemorrhoidalis*, but readily distinguished from that species by the antennae; these have the eighth joint quite as flat as the seventh and fully half its width, the ninth and tenth are also flat. In *haemorrhoidalis*, and all its varieties, the eighth-eleventh are cylindrical, and subequal in width; the apical joints to a certain extent resemble those of *torridus* and *wallacei*, but the species is otherwise very different. The medio-basal depression of the pronotum approaches to a triangular shape, but less conspicuously so than on *haemorrhoidalis*, the bounding lines being less acutely elevated and not so straight. The entire insect is of a deep black colour, except that parts of the muzzle and of the under-surface are very obscurely diluted with red.

PSEUDOLYCUS CANALICULATUS, n. sp.

♂. Black; prothorax and elytra partly red; elytra subopaque, elsewhere shining. Moderately clothed with short pubescence, mostly similar in colour to the derm on which it rests; prothorax glabrous.

Head moderately convex between eyes; punctures minute and more or less concealed. Antennae with more or less cylindrical joints. *Prothorax* lightly transverse, sides rounded on apical half, incurved on basal half: with a

deep and sharply-limited, continuous median groove, moderately wide at base and apex, evenly and gently constricted in middle; with a large and deep excavation on each side, posteriorly acutely narrowed, at the side in front encroached upon by a tubercular swelling; with some irregularly scattered punctures. *Elytra* much wider than prothorax; each with four discal, subcostal elevations, of which the third is very feeble and fourth (from above) apparently marginal; finely granulate-punctate, but sculpture partially concealed. Length, 9 mm.

Hab.—New South Wales: Dorriggo (W. Heron). Type (unique), I. 6664.

This species is certainly congeneric with *hilaris*, with which it agrees in its impubescent pronotum, but it differs from that species, as from all others of the genus, by the remarkable sculpture of the pronotum, in particular by the strongly-impressed median line. The median third of the pronotum is occupied by a black vitta, with somewhat uneven sides; on the elytra the reddish parts are the base, apex, sides near apex, shoulders, and the first and fourth discal costae, with parts of the second and third.

MORPHOLYCUS, n. g.

Head of moderate size, strongly narrowed behind the eyes and with a distinct neck; labrum strongly transverse, gently rounded in front. Eyes large, prominent, lateral, entire, finely faceted. Antennae usually serrate or pectinate, apical joint semidouble. Maxillary palpi with first and third joints small, the others larger, fourth joint securiform. Labrum small and soft, with small palpi. Mandibles bifid. *Prothorax* transverse, lateral sutures not defined. *Scutellum* small and distinct. *Elytra* flat, much wider than prothorax, more or less parallel-sided: epipleurae narrow and continuous throughout. *Mesosternum* produced in front, apex bisinuate for reception of front coxae. *Metasternum* elongate, episterna not very narrow. *Abdomen* parallel-sided for most of its length, composed of six segments in the male and five in the female. *Legs* moderately long; front coxae basal and touching, their cavities widely open behind, middle coxae lightly, the hind ones moderately separated; tibiae lightly bispinose at apex; tarsi with penultimate joint conspicuously produced below claw joint; claws each with a large basal swelling.

This genus is proposed for the reception of *Pseudolycus apicalis*, Macl., which, as pointed out by Blackburn (*ante*, 1899, p. 72), is certainly not a *Pseudolycus*; he considered it was probably a *Pyrochroid*, but said that the differences

noted between the *Pyrochroidae* and *Oedemeridae* were rather vague. Associated with it are three other species, one of which has very different antennae, but in other generic details is in agreement with it. They differ from all the European *Pyrochroidae* in the Museum in having the eyes lateral and entire, elytra almost parallel-sided (at any rate not conspicuously dilated posteriorly), with narrow epipleurae continuous from base to apex, and with much larger and more conspicuous punctures. In the various works I have consulted some latitude appears to be allowed in the claws of both families; in the present genus they are certainly not simple, neither are they bifid, as the basal swelling is nowhere pointed. I consider it belongs to the same family as *Techmessa ruficollis*, and as that genus was referred to the *Oedemeridae* by Bates and allowed to remain in it by Champion, it appears desirable to refer the present one to that family.⁽⁴³⁾ The species are all flat and winged, and black (or purplish-black) and rusty red; in general appearance much like many *Lycides*, of the *Malacodermidae*. The clypeus (at least its front portion) appears to be of the same consistency as the labrum; that is to say, rather soft. Although the front coxal cavities are widely open behind, it is usually necessary to remove a leg to see a cavity clearly, as the front of the mesosternum is produced on to the base of the prosternum so that each coxa is surrounded partly by the prosternum and partly by the mesosternum. The species may be tabulated as follows:—

Antennae not serrate	...	...	...	...	...	...	<i>monilicornis</i>
Antennae serrate or pectinate.							
Elytra with sharply-defined costae	...	...	...	...	...	...	<i>costipennis</i>
Elytra with vaguely-defined elevations.							
Prothorax entirely pale	...	...	...	...	...	...	<i>serraticornis</i>
Prothorax partly black	...	...	...	...	...	...	<i>apicalis</i>

MORPHOLYCUS APICALIS, Macl. (formerly *Pseudolychus*).

There are two specimens (including the type) of this species in the Australian Museum;⁽⁴⁴⁾ they were described as being black except for part of the elytra, but both have the prothorax obscurely reddish at the sides. They are males, and have the antennae strongly serrated or subpectinate after the second joint; the eleventh joint (missing from the types)

(43) In his recent revision of the *Pyrochroidae* (Ann. and Mag. Nat. Hist., 1914) Blair states definitely that *P. apicalis*, Macl., belongs to the *Oedemeridae*, and some of the family characters he gives: eyes emarginate for the insertion of the antennae, and claws simple certainly exclude it from the *Pyrochroidae*.

(44) And I have seen others from Mount Tambourine and the Tweed River.

is distinctly longer than the tenth and semidouble, the "three or four (there are three discal ones on each elytron) slightly elevated longitudinal lines" of the elytra are not costae, but vague elevations, between which the surface is vaguely depressed. The female differs from the male in having shorter antennae, with the joints much less conspicuously serrated and the eleventh stouter; the eyes, also, are not quite so prominent.

VAR. 1. Two specimens, from Moreton Bay, in the Australian Museum, and two taken by Mr. Hacker (his No. 456) at Mount Tambourine, differ from the types in having the prothorax conspicuously pale at the sides (the colour there being similar to that of the elytra), the elytra have an infusate stain (of variable extent) on part of the suture (the stain on two specimens is sub-basal, but on one it is smaller and submedian); the sides near the base are lightly infuscated. From all these specimens the black apical patch of the typical form is absent.

VAR. 2. A female, from Illawarra, in Mr. Carter's collection, has the prothorax as in Var. 1, but with the elytra black, except for a narrow vitta extending from each shoulder to the apex, and there curved round and extended along (but not actually on) the suture to about the middle.

MORPHOLYCUS SERRATICORNIS, n. sp.

♂. Black; muzzle and base of head, prothorax, shoulders, and trochanters of a more or less flavous-red. Clothed with short, depressed pubescence, more noticeable on the reddish parts than elsewhere.

Head densely and sharply punctate; with a vague depression between antennae. Antennae passing hind coxae, first joint rather short and stout, second small and transverse, third-tenth strongly serrate, eleventh decidedly longer than tenth. *Prothorax* moderately transverse, sides evenly rounded, base and apex subequal, but the base lightly trisinate; with a deep longitudinal excavation and a strong curved depression on each side; punctures dense, but rather small and partially concealed. Elytra flat, about one-third wider than prothorax, almost parallel-sided to near apex; each with three vaguely elevated not at all costate lines; with crowded punctures as on head. Length, 8-8½ mm.

Hab.—Queensland: Cairns district (F. P. Dodd and A. M. Lea). Type, I. 6654.

Structurally rather close to *apicalis*, but the antennae are serrate rather than pectinate, the serrations being more pronounced than on the female of that species, and decidedly less than on the male; the elytral structure is much the

same, but the longitudinal elevations are even less defined. The two males in the Museum are exactly alike in colour.

MORPHOLYCUS COSTIPENNIS, n. sp.

♂. Black; parts of prothorax and elytra (except apical third) of a rusty red. Sparsely pubescent, the elytra almost entirely glabrous.

Head and antennae much as in the preceding species. *Prothorax* lightly transverse, sides somewhat unevenly rounded, base lightly trisinate; with a wide and conspicuous but not very deep median line, and with a somewhat shallower depression on each side; punctures dense and sharply defined. *Elytra* much wider than prothorax, very feebly dilated posteriorly; each with four acute discal costae, the suture and margins also narrowly elevated; punctures much as on prothorax. Length (♂, ♀), 8½-10 mm.

♀. Differs in being somewhat wider, antennae shorter and less strongly serrate, legs slightly shorter, and abdomen with the tip rounded, and without the small and notched sixth segment of the male.

Hab.—Queensland: Mount Tambourine (H. J. Carter and H. Hacker); New South Wales: Tweed River (Blackburn's collection, from R. Helms). Type, I. 6656.

In general appearance the type is very close to the typical form of *apicalis*, but the elytra are acutely costate and the antennae are much less acutely serrate. The longitudinal impressions of the pronotum are not so deep as on the preceding species, but the punctures are almost as large as on the head, instead of considerably smaller. On the type the prothorax is red, but with a large circular black discal patch, its elytra have the black apical portion slightly advanced along the suture; a second male closely agrees with it in colour, except that the apical black patch of the elytra is somewhat larger. A female (mounted with the type male) has the black discal patch of the pronotum irregularly connected with the apex, and its elytra entirely red, except for a narrow posterior infuscation of the suture; another female has similar elytra, but the black prothoracic patch so extended as to leave only a narrow reddish strip at the base.

MORPHOLYCUS MONILICORNIS, n. sp.

♂. Black, with a more or less purplish gloss; elytra purple, with the base, apex, and sides red, the red partly advanced along the suture. Sparsely pubescent, but the sides with moderately long, straggling hairs.

Head with crowded and sharply-defined punctures. Antennae rather short and stout, first joint rather short,

second small, third about as long as first, and slightly longer than fourth, the others to tenth feebly increasing in width and not at all serrate, eleventh slightly longer than tenth, its tip slightly produced. *Prothorax* moderately transverse, sides irregularly rounded, base lightly trisinate; with a wide and fairly deep longitudinal excavation in middle, each side with an irregular impression becoming foveate in the middle; punctures slightly larger than on head, but not quite so crowded. *Elytra* almost twice the width of prothorax, parallel-sided except at base and apex; each with three irregularly-elevated lines, fairly distinct but not costate; with rather large, deep, and crowded punctures. Length (σ , ♀), 8-12 mm.

♀ . Differs in being somewhat wider, eyes not quite so prominent, antennae somewhat stouter, and in the tip of the abdomen.

Hab.—New South Wales: Bulladelah, under rotting bark of logs (H. J. Carter), Burrawang (T. G. Sloane), Clifton (A. M. Lea); Victoria (National Museum and H. J. Carter), Warragul (J. C. Goudie, his No. 312). Type, I. 6655.

Structurally close to *serraticornis* and *apicalis*, but with very different antennae; the claws, also, are more noticeably appendiculate. The elytra on the eight typical specimens appear to be completely bordered with red, but on looking at them from the sides the margins from near the base to well beyond the middle are seen to be purplish.

VAR. 1. Four specimens differ in having the elytra red, except that the suture is narrowly purple from near the base, and that the sides (invisible from above) are as on the typical form.

Hab.—New South Wales: Dorriggo (W. Heron); Victoria: Alps (Blackburn's collection), Fernshaw (National Museum).

TECHMESSA RUFICOLLIS, Champ.

This species differs in several respects from the original generic diagnosis (founded upon two New Zealand species),⁽⁴⁵⁾ in which stress was laid on the third joint of the antennae, "two a little shorter than three, and both obconic; three not more than half as long as four"; on the type of *ruficollis* the third was described as being twice as long as the second, and the third to tenth subequal (as a matter of fact, the third is just perceptibly shorter than the fourth); the eyes of the New Zealand species were noted as "slightly transverse" (in *ruficollis* they are not at all transverse), the sides of the prothorax as "abruptly incurved anteriorly, gradually

⁽⁴⁵⁾ Bates: Ann. Mag. Nat. Hist., Feb., 1874, p. 113.

contracted posteriorly" (the type of *ruficollis* was noted as having the sides of the prothorax abnormal, but on normal specimens they are more abruptly narrowed posteriorly than anteriorly). But no doubt Mr. Champion was satisfied, from examination of the typical species, that the differences noted were only specific.

There are five specimens before me that appear to belong to *ruficollis*, but the colours of only one of these (from the Blue Mountains, in Mr. Carter's collection) agree exactly with the description. Of the others (all from Tasmania), one has the knees and tarsi quite as dark as the rest of the legs, one has the prothorax reddish, but with a large somewhat circular blackish blotch occupying most of the disc; the other two are entirely black, except that parts of the legs and mouth-parts are obscurely piceous; one of these is the specimen previously commented upon by Blackburn (*ante*, 1889, p. 84).

TECHMESSA BIFOVEICOLLIS, n. sp.

Black, shining; prothorax, scutellum, prosternum, mesosternum, muzzle, two basal joints of antennae, palpi, and legs (tarsi and apical parts of tibiae lightly infuscated) flavous. Clothed with not very dense, semidecumbent and upright pubescence or setae, similar in colour to the derm supporting them.

Head wide, strongly narrowed to base and apex; with dense and sharply defined, but not very large punctures. Eyes large, prominent, and lateral. Antennae moderately long, second joint short, third just perceptibly shorter than fourth, the others very feebly decreasing in length and very feebly increasing in width, but eleventh distinctly longer than tenth. *Prothorax* distinctly transverse, sides increasing in width from apex to near middle, and then arcuate to base; with a large round fovea on each side of middle of disc, and with a rather shallow median line; punctures dense but not very deep. *Scutellum* densely punctate. *Elytra* much wider than prothorax, parallel-sided to the rounded apex; with dense and moderately large, sharply-defined punctures. *Legs* moderately long and thin, penultimate joint of tarsi strongly produced under claw joint. Length, 4 mm.

Hab.—Queensland: Mount Tambourine (A. M. Lea). Type (unique), I. 6653.

Smaller and more sparsely clothed than *ruficollis*, and with more of the legs pale; the head is more convex and more shining, the antennae shorter (although not much shorter), with the joints more cylindrical, and the elytral punctures not quite so crowded. In general appearance it is like a small *Heteromastix*, of the *Malacodermidae*. The elytra

are without traces of discal costae. As the abdomen is missing the sex of the type is doubtful.

DOHRNIA BOISDUVALI, Blackb. (formerly *Ananca*).

Silis australis, Blackb.

Var. *D. simplex*, Champ.

This species has been rather unfortunate in its synonymy; in 1891 it was described as *Silis australis*, of the *Malacodermidae*; in 1893 it was transferred to the genus *Ananca*,⁽⁴⁶⁾ of the *Oedemeridae*; but *australis* being already in use in that genus, the specific name was altered to *boisduvali*. Still later (1899) it was found to be congeneric with a species (*D. simplex*) referred by Champion to *Dohrnia*, and the generic determination was accepted by Blackburn.

There are before me a co-type of *boisduvali*, a South Australian specimen labelled by Blackburn as *boisduvali*, and several other South Australian and Victorian specimens that agree with them; and numerous Tasmanian specimens (including several pairs taken *in cop.*) of *simplex*, and I can only regard *simplex* as a Tasmanian colour-variety of *boisduvali*. In the original description of the latter the prothorax was noted as having "*lateribus subtus appendiculatis*"; and again, "The downward-directed appendage of the sides of the prothorax is no doubt characteristic of the male." But there is no true appendix; near the base of the prothorax there is an impressed line, behind which an elevated line margins the base, and this, when curving downwards on each side, gives an appearance as of an appendix; it is slightly more pronounced on *boisduvali* than on *simplex*, but is not sexually variable. In comparing the two forms, Blackburn stated that *boisduvali* differed from *simplex* "by the colouring of its head and legs,⁽⁴⁷⁾ and by its much smaller prothorax, the sides of which are much more strongly curved behind the anterior tuberosity, making the segment very much narrower in the hinder part and the extremities of the base much more prominent." But he evidently compared a male of one form with a female⁽⁴⁸⁾ of the other, as the male of each form differs

(46) Considered by Champion as a probable synonym of *Copidita*.

(47) On most specimens the head has a more or less brassy gloss, occasionally with a faint bluish tone; but on *boisduvali* the front parts become testaceous, and on *simplex* plain black; on the former, also, the front tibiae are almost wholly pale, whilst on the latter they are obscurely pale only at the base; but colour variations such as these are frequent between Tasmanian and mainland specimens of many insects.

(48) The sexes may be readily distinguished by the tip of the abdomen.

from its female in the particulars⁽⁴⁹⁾ of the prothorax he presumed to be specific. On the co-type and other specimens of *boisduvali* the elytra have an obscure bluish gloss; on *simplex* they are deep black (Champion described the elytra as bluish-black, but they very seldom have the least trace of blue). The punctures on the elytra of both forms are much denser than on the head, where they are somewhat denser than on the prothorax; on the latter they are subject to a certain amount of variation.

DOHRNIA EREMITA, Blackb.

The male of this species has the head slightly larger than in the female, with more prominent eyes and longer antennae, prothorax smaller and more strongly sculptured, and tip of abdomen very different. Both sexes superficially strongly resemble the female of *miranda*, but may be at once distinguished by the basal joint of the antennae; in the female of *miranda* this joint is quite as long as the distance between the eyes. In the present species it is scarcely half the distance between the eyes.

DOHRNIA BIFOVEICOLLIS, n. sp.

♀. Black; head in front of eyes (but not labrum, which is of a shining black), prothorax, scutellum, under-surface (except metasternum, abdomen, and a spot on the side of each eye), legs (parts of tarsi and tips of tibiae infuscated), most of palpi, and under-parts of from two to four basal joints of antennae flavous. Moderately clothed (more sparsely on the head and prothorax than elsewhere) with short, pale, depressed pubescence.

Head moderately convex; with dense and rather small but sharply-defined punctures. Eyes large and prominent, feebly notched in front. Antennae moderately long and not very thin, eleventh joint distinctly longer than tenth, and semidouble. *Prothorax* lightly transverse, sides dilated near apex; on each side towards apex with a large deep excavation, a narrowly-impressed line close to apex, and another close to base; with rather small and irregularly-distributed, but sharply-defined punctures. *Elytra* much wider than prothorax, parallel-sided to near apex; each with two rather feeble discal costae; with very dense and small punctures. *Claws* somewhat swollen near base. Length, 5-6½ mm.

Hab.—Queensland: Mount Tambourine (A. M. Lea); New South Wales (National Museum): Tweed River (W. W. Froggatt). Type, I. 6652.

(49) They are much more pronounced on some specimens than on others.

The five specimens before me appear to be all females, and the prothoracic excavations vary slightly on them all.

COPIDITA PUNCTA, W. S. MacL.

1. On the typical form of this species the head has a large rounded or elliptic, completely isolated black spot in front, the pronotum has a large, curved, longitudinal, black or blackish vitta on each side, and the elytra have the suture narrowly pale, but the pale portion touches neither the base nor apex, and is slightly dilated posteriorly, the elytral margins are usually very narrowly pale, but the pale portion is sometimes so obscure that it might be regarded as absent. On the male the abdomen ⁽⁵⁰⁾ has the second-fourth segments black; on the female those segments usually have a black spot on each side, but occasionally the abdomen is entirely pale.

2. A male, from Lucindale, has the abdomen entirely pale, and the sutural marking rather wider than usual and parallel-sided, except at its beginning and end.

3. A male, from Tasmania, differs from the typical male in having the pale sutural portion considerably wider than usual, and somewhat dilated at the middle (of the suture), the disc outside of the dilated portion is also obscurely longitudinally diluted.

4. A male, from Lucindale, has the head entirely black between the eyes, each of the prothoracic vittae near the apex directed outwards and then backwards for a short distance (so as to appear somewhat hook-shaped), the sutural marking extremely narrow but continuous throughout, and the abdomen, tibiae, and tarsi black.

5. Three males, from Northern Queensland, have the head, abdomen, and legs as in No. 4, but the prothorax has a disconnected spot on each side near the vitta, the elytra have the suture narrowly but conspicuously pale from the base almost to the apex, and each shoulder has a small pale spot.

6. A female, from Galston, has the markings of the head and prothorax as in No. 4, the elytral suture narrowly pale throughout, till at the tip it joins in with the conspicuously pale lateral margins, and the abdomen (except the basal segment and part of the second) blackish.

7. Five females, from Dalby, have the head widely black between the eyes, the prothoracic vittae rather wider than usual, the sutural marking commencing very narrowly at the base, feebly dilated at the middle, and suddenly and

(50) The abdomen was not mentioned in the original description.

more strongly dilated and as suddenly terminated near the apex; the abdomen has the three apical segments black or blackish, and the sides of the others similarly coloured. On this form the head is rather more concave than on *languida* (but the degree of concavity appears to be as variable as the markings), and the subapical marking is at the same place as on that species, but is rather smaller and not the same shape.

8. Two females, from Mangemup, have the head with an isolated spot, the prothoracic vittae shorter and wider than usual (almost pear-shaped), and the sutural vitta wide and parallel, except that at the base it is slightly dilated (but leaving a dark semicircular or triangular portion about the scutellum), and that near the apex it is rather suddenly terminated, the margins are nowhere paler; the sterna are flavous, and the abdomen with a more reddish tone and nowhere black.

The density and size of the prothoracic punctures, the depth of the prothoracic impressions, the degree of polish, the comparative widths of the prothorax and elytra, and the colour of the antennae and metasternum are also subject to variation; many specimens also have a conspicuous bluish or purplish gloss on the dark parts. It is the most widely-distributed species in Australia, specimens before me being from Queensland (Cairns, Dalby, and Brisbane), New South Wales (Sydney, Galston, and Mount Kosciuszko), Victoria (Ballarat and Dividing Range), Tasmania (Hobart, Mount Wellington, Launceston, and Swansea), South Australia (Lucindale, Mount Lofty, and Kangaroo Island), and Western Australia (Mangemup).

COPIDITA RUFICOLLIS, MacL. (formerly *Ananca*).

C. dentipes, Blackb.

Of this species there are now eight males and three females before me. The male has distinctly bifid claws; ⁽⁵¹⁾ on the female each claw has a basal swelling, but it is not very acute, and terminates some distance from the apex, so that the claw could not be regarded as bifid. The apical joint of the maxillary palpi is larger on the male than on the female, but is otherwise much the same, on both it is considerably longer than the penultimate joint; but the sexes may be readily distinguished by the tips of the abdomen. The colour of the elytra varies from blackish-blue to deep violet; on some specimens there are vague remnants of elytral costae, but on others these are not traceable.

(51) The claws are small and close together, so that it is necessary to examine them closely in a good light; but when so viewed they are quite plainly bifid.

Macleay in error described the mesosternum as black. The type of *ruficollis* was from Gayndah, and is a female; the type of *dentipes* ⁽⁵²⁾ is evidently a male, and was from an unknown locality. The specimens now before me are the type of *ruficollis*, one from Australia (old collection), three from Queensland (Mackay and Brisbane), one from New South Wales (Forest Reefs), and five from South Australia (Mount Lofty and Myponga).

COPIDITA NIGRONOTATA, Boh.

Pl. xiii., fig. 24.

This species varies in length from 10 to 16 mm., and some specimens are much darker than others. There are nearly always five small spots on each elytron: one on the shoulder and four in a line close to the suture at almost equal distances apart, but the apical one is seldom as sharply defined as the others, and occasionally is absent.

COPIDITA BALDIENSIS, Blackb.

A specimen, from Jenolan, differs from a co-type of this species in having the prothoracic impressions smaller and shallower, and the lateral spots much smaller and appearing more like stains; on the elytra the subelevated lines are even less defined (on the co-type, although not conspicuously elevated, they are traceable to near the apex, but on the Jenolan specimen they are not traceable even to the middle).

COPIDITA KERSHAWI, Blackb.

The type of this species was described as having "*capite . . . in parte postica longitudinaliter canaliculato*," and was said to differ from *baldiensis* "by its head strongly canaliculate in the hinder part." It was originally received from Mr. Kershaw, of the National Museum, and is now in the British Museum. I have seen three Victorian specimens from the National Museum, said by Mr. Kershaw to have been named by Mr. Blackburn, but not bearing his name labels, ⁽⁵³⁾ and these agree with the description except that the head is

(52) It was represented in the Blackburn collection by a label only.

(53) In reply to an enquiry Mr. Kershaw wrote:—"Regarding *Copidita kershawi*, I have examined four other specimens, but cannot find any trace of a longitudinal groove on the back of the head. The specimen referred to by Blackburn is one of a number of beetles I sent him about 1899; all those sent were numbered, and a corresponding number was attached to similar specimens in our collection; he did not return a specimen, but sent me the name and number."

not at all canaliculate; there are also specimens before me from Queensland (Cloncurry) and New South Wales (Moruya) that agree with the Victorian specimens. Although not commented upon under the description of *languida* (the type of which is in the South Australian Museum) this species in general appearance is extremely close to it, having very similar and curious elytral markings; but it differs in having the three large prothoracic foveae or excavations of that species represented by shallow depressions only, the prothoracic markings larger and more narrowly separated along the middle, the head and abdomen immaculate, and all the joints of the antennae pale at the base.

COPIDITA LANGUIDA, Blackb.

Pl. xiii., figs. 25, 26.

The pale markings on this species vary somewhat; the two dilated spaces starting from the suture are considerably larger on some specimens than on others, but their outer edges appear always to terminate on or about the second discal costa; this costa is pale at the base, and the pale portion is occasionally narrowly connected with the ante-median mark; on one specimen it is also connected with the postmedian mark; the margins are usually narrowly pale throughout, but occasionally the pale portion extends to neither base nor apex, sometimes only to the base. The fifth segment of the abdomen is usually black right across the middle, but occasionally is spotted at the sides only, each of the three preceding segments has a conspicuous spot on each side. Sometimes the eighth joint of the antennae is entirely pale, and the ninth but little clouded towards its apex, but the four apical joints (as also the third and fourth) are subject to considerable variation. The tarsi are partly pale, and the hind tibiae are pale to a variable extent, but the pale portion never touches the base or apex, although always nearer to the latter. There appears to be always a reddish patch between the eyes.

COPIDITA SLOANEI, Blackb.

Pl. xiii., figs. 27, 51, 52.

There are several species before me that in general appearance might be regarded as varieties of *sloanei*, but that species may be readily distinguished by the apical joint of the maxillary palpi of the male; this has a conspicuous appendix, much as if a small supplementary joint had been thrust in at the outer edge, near where the two apical joints touch; the female (the type must have been a female, as the

apical joint was described as "*elongato cultriformi*") is without this. It was doubtfully recorded as from New South Wales; the specimens before me are from New South Wales (Forest Reefs) and South Australia (Lucindale), in addition to two co-type males.

COPIDITA PULCHRA, Blackb.

The type of this species was unique in the Blackburn collection, and is now in the British Museum; its sex, unfortunately, was not noted. It was the only species referred by Blackburn to his second subsection of the genus characterized by "apical joint of maxillary palpi scarcely longer than penultimate"; in the specific description this was noted as "*quam penultimus parum longiori*," and again, "The short apical joint of the maxillary palpi."

I have taken, at Forest Reefs, two females that have the apical joint rather shorter than usual in the genus, although decidedly longer than the penultimate joint (its inner edge is about the length of that joint, but the outer edge is quite one-half longer); their colours agree exactly with the description, but the elytra are without the "*lineis subelevatis 3 perspicue instructis*" of the type; this, however, being a somewhat variable character in several species of the genus, it is quite probable that the specimens really belong to *pulchra*.

Three specimens, from Mount Victoria, agree well with the colours, except that the elytra are more of a metallic bluish-green than "*laete cyaneis*," and of these a male has three discal lines on each elytron, but they are fairly distinct only towards the base; but the apical joint of the maxillary palpi of both sexes is conspicuously longer than the penultimate, whilst in the male it is of such a curious shape that had the type been of that sex Blackburn could scarcely have avoided describing it.

There is still another species, *ruficollis*, Macl., whose female would be referred to Subsection II., but its male has bifid claws, and both sexes have entirely pale femora.

COPIDITA MARITIMA, n. sp.

♂. Black, with a dull bluish gloss; head (except for a large oval median spot and the tips of the mandibles), prothorax (except for a large frontal blotch), part of scutellum, labial palpi, and parts of legs flavous; four apical joints of antennae (and sometimes others) also pale. Densely clothed with short, whitish, depressed pubescence.

Head with several vague impressions; with rather small but sharply-defined and somewhat irregularly-distributed punctures; mandibles bifid. Antennae long and thin, eleventh

joint no longer than tenth, and semidouble. *Prothorax* slightly longer than wide, widest at about apical third, thence rather strongly narrowed to base, which has an upturned edge, and is distinctly incurved to middle; with a vague depression towards each side in front; punctures somewhat as on head. *Elytra* distinctly wider than prothorax, each with four lightly-raised discal costae; with dense and small subasperate punctures. Length (σ , ♀), 10-16 mm.

♀ . Differs in being wider, tip of abdomen evenly rounded instead of lightly notched, and legs and antennae somewhat shorter.

Hab.—New South Wales: Sydney (H. J. Carter and A. M. Lea), Eden (Carter), Wollongong (Lea); Victoria: Flinders (Carter), Gippsland (W. Kershaw), Inverlock (J. Searle); Tasmania: Georgetown (Carter), Ulverstone (Lea); South Australia: Robe (B. A. Feuerherdt). Type, I. 6743.

Common on sea-beaches, just above high-water mark, at night. Allied to *puncta* and *macleayi*, but prothorax with consistently very different markings; the black portion (except on a few specimens when it is not quite solid) being in one piece, not in two as in *puncta*, or in three as in *macleayi*. There is generally a dark spot close to each eye on the under-surface of the head, and a transverse blackish stripe in front of the front coxae, the knees, tarsi, and tips of tibiae (the greater portion of the front ones) are usually blackish. The blotch on the pronotum sometimes extends completely across the apex, but often has a sinuate outline there; its posterior edge usually has a bilobed median portion extended beyond the lateral parts; but on many specimens it has small irregular flavous spots; on an occasional specimen it almost entirely covers the pronotum; the suture is often narrowly paler than the rest of the elytra, and on some specimens there is an obscurely diluted vitta extending almost the whole length of each elytron near the suture. On one specimen from Sydney there is a wide pale sutural space from the base to near the apex, but with a short dark vitta close to the suture on each side of the base; another specimen from Sydney (in Mr. Carter's collection) has the elytra pale, except for a narrow vitta extending from each shoulder to the apex (where the two are conjoined), its prothoracic blotch is in two parts (narrowly connected posteriorly), and five of the terminal joints of its antennae are pale; the clothing of its suture also appears conspicuously paler than that on the adjacent parts.

COPIDITA FUSCICOLLIS, n. sp.

σ . Flavous, elytra (except for part of suture), knees, tibiae, and tarsi black or blackish, antennae (two basal joints

excepted), palpi, tips of mandibles, and pronotum more or less deeply infuscated. Moderately clothed with short, depressed, pale pubescence.

Head wide and lightly concave in front; about base with dense and moderately large punctures, smaller and sparser elsewhere; mandibles bifid. Eyes rather large and deeply notched. Antennae long and thin, eleventh joint scarcely longer than tenth, and not semidouble. *Prothorax* slightly longer than wide, widest near apex, base slightly incurved to middle and narrowly upturned; with three moderately large discal impressions: one towards each side in front, and one in middle towards base; with coarse and rather dense punctures, denser and smaller on dilated parts than elsewhere. *Elytra* distinctly wider than prothorax; each with four lightly-elevated discal costae; densely granulate-punctate. Length (♂, ♀), 12-15 mm.

♀. Differs in being somewhat wider, eyes slightly smaller, legs and antennae not quite so long, and tip of abdomen strongly convex and not notched.

Hab.—South Australia (Australian Museum): Murray River (H. S. Cope). Type (♂), I. 6658, in South Australian Museum; co-types (♀ ♀), 38387, in Australian Museum.

The elytra are coloured as on many specimens of *puncta*, but the irregularly-clouded prothorax (on which the impressions are different and punctures denser) and immaculate head readily distinguish it from that species. The prothoracic punctures are considerably coarser than on *maritima*, and there are many other differences in sculpture and colour. The elytra have a vague bluish gloss, the pale sutural portion commences very narrowly near the base, and slightly dilates to near the apex, near which it rather suddenly terminates. On one of the specimens in the Australian Museum each shoulder has an obscure flavous vitta. The infuscation of the pronotum appears to be formed by four very obscurely-defined longitudinal vittae or blotches.

COPIDITA MIRA, n. sp.

Pl. xiii., fig. 53.

♂. Flavous; sides of prothorax, elytra (suture excepted), abdomen, knees, tips of mandibles, and parts of palpi more or less black. Closely covered with short, depressed, whitish pubescence.

Head rather long, convex between eyes, with several vague depressions in front; with rather dense and sharply-defined punctures of moderate size, but becoming smaller and sparser in front, and almost absent from clypeus; mandibles bifid. Antennae long and thin, eleventh joint scarcely longer

than tenth, and conspicuously semidouble. Maxillary palpi with the apical joint large and thick, its outer side incurved, inner side oblique and angled, and apex conspicuously incurved and hollow. *Prothorax* distinctly longer than wide, sides moderately inflated near apex, base distinctly upturned; with crowded and sharply defined, but somewhat asperate punctures. *Elytra* conspicuously wider than prothorax; each with four rather conspicuous discal costae; densely granulate-punctate. Tip of *abdomen* deeply bisinuate. Length (σ , ♀), 8-12 mm.

♀ . Differs in having the apical joint of the maxillary palpi much smaller, with the apex obliquely truncate and outer side not incurved, the tip of the abdomen rather strongly produced and not bisinuate, and the legs and antennae somewhat shorter.

Hab.—Lord Howe Island; New South Wales: Sydney (A. M. Lea), Gosford (H. J. Carter); Northern Queensland (Blackburn's collection). Type, I. 6584.

The palpi of the male are very different to those of any other species known to me. The claws are not simple, as each has a distinct subdentiform basal swelling, but they are certainly not "strongly toothed," as in Blackburn's third subsection of the genus; they are, in fact, almost exactly as on *baldiensis*, given as a "typical" *Copidita*. The spots on the pronotum are elongate, with a rounded outline internally, at their greatest width each occupies from one-fourth to one-third the median width, the pale sutural portion varies from very narrow to about three interstices on each elytron; the two apical joints of the palpi are blackish, but the tip of the apical joint is more or less widely flavous; the tibiae and tarsi are usually partly infuscated, and on one specimen there are some vague infuscations on the head; on one specimen from Sydney, and on another from Northern Queensland, the abdomen is entirely pale. There are no distinct depressions on the pronotum; but the surface is gently undulating.

COPIDITA INTEROCULARIS, n. sp. •

σ . Flavous and black. Closely covered with short, depressed, whitish pubescence.

Head moderately convex between eyes, a shallow depression in front; with small and rather sparse punctures; mandibles bifid. Antennae long and thin, eleventh joint no longer than tenth and feebly semidouble. *Prothorax* slightly longer than wide, sides somewhat dilated near apex, base narrowly upturned, with a fairly large medio-basal impression, and a vague depression towards each side in front; punctures dense and sharply defined but small, becoming

smaller and sparser in front. *Elytra* distinctly wider than prothorax; each with four feeble discal costae or remnants of same; densely and rather finely granulate-punctate. Length (♂, ♀), 8-11 mm.

♀. Differs in being somewhat wider, appendages slightly shorter, and tip of abdomen rounded instead of slightly notched.

Hab.—Lord Howe Island (A. M. Lea). Type, I. 6585.

In general appearance close to the preceding species, and belonging to the same section of the genus, but elytral suture not pale, the head maculate, the metasternum dark, and the palpi normal. *Puncta* (also with a maculate head) is a more polished species, with coarser punctures, elytral suture conspicuously pale, prothoracic spots differently placed, and with many other differences. The prothoracic spots are much as on some specimens of *Oxacis australis*, but the mandibles are bifid. In some respects it is close to *C. litoralis*, but the head has an isolated spot, the labrum is pale, the prothoracic spots are different, and the basal joints of the antennae are not longitudinally divided in colour. The flavous parts are the head (except for a rounded interocular spot), prothorax (except for a fairly large rounded spot on each side in front, and the prosternum in front of the front coxae), and the legs (except for the knees and parts of the tibiae and tarsi, these being more or less deeply infuscated); from two to five of the apical joints of antennae are more or less conspicuously diluted with red; the elytra have a vague bluish or greenish gloss; the abdomen of the male is transversely red at the tip, of the female longitudinally red.

COPIDITA OBLONGICOLLIS, n. sp.

♂. Reddish-flavous; elytra dark metallic-blue; head with a wide median space, a spot on each side near front of prothorax, mesosternum, metasternum, abdomen (tip excepted), tips of mandibles and part of apical joint of palpi black or infuscated. Clothed with short, depressed, white pubescence, more noticeable on the suture and elevated lines on elytra than elsewhere.

Head long, flat between eyes and gently concave in front; with dense but rather small and not very sharply-defined punctures; mandibles bifid. Eyes rather large, but scarcely interrupting the general obliquity of the sides. Antennae moderately long and rather thin, eleventh joint slightly longer than tenth, and feebly semi-double. *Prothorax* distinctly longer than wide, sides feebly dilated to near apex, apex and base each distinctly incurved to middle, base lightly upcurved, with a shallow median line, and a very vague

depression towards each side in front; with moderately dense but small and rather feeble punctures. *Elytra* about one-third wider than prothorax; each with four feeble discal costae or remnants of same; densely and finely granulate-punctate or shagreened. Tip of *abdomen* very feebly notched. *Femora* rather stouter than usual. Length, 8-9½ mm.

Hab.—Western Australia: Geraldton (T. Hooper). Type, I. 6744.

In general appearance at first glance fairly close to *interocularis*, but head narrower, with longer eyes, prothorax considerably longer, elytra with different clothing, and appendages entirely pale, or at most in places very lightly infuscated. From *litoralis* it is still more distinct. The dark space on the head touches both eyes and extends in front almost to the clypeus, and at the back a slight distance beyond the eyes, the spot on each side of the pronotum is not very large, is somewhat oval in shape and obliquely placed, with the narrower end inwards. The apical joint of the palpi is stout and feebly notched near the outer apex, the notch rendered rather more conspicuous by a few overhanging setae. There are four males before me, practically identical in colour and all with the genital armature conspicuous.

COPIDITA ERYTHRODERES, n. sp.

♂. Dark metallic coppery-green or blue; prothorax reddish-flavous, antennae and scutellum blackish. Moderately clothed with short, depressed, whitish pubescence; pronotum almost glabrous.

Head convex at the back, but flattened between eyes; with dense and sharply-defined but not very large punctures; mandibles bifid. Eyes large and almost entire. Antennae long and thin, eleventh joint scarcely longer than tenth and lightly semidouble. *Prothorax* about as long as wide, sides moderately inflated near apex, apex evenly rounded, base gently upturned; with a complete shallow depression across the disc near apex, and a less regular depression across base; punctures somewhat as on head. *Elytra* much wider than prothorax; each with four discal costae, very distinct towards base, but becoming rather feeble posteriorly; with crowded and small but mostly sharply-defined punctures. Length (♂, ♀), 8-11 mm.

♀. Differs in being wider, prothorax lightly transverse, tip of abdomen gently rounded instead of conspicuously notched, and antennae and legs somewhat shorter and stouter.

Hab.—Western Australia: Perth (National Museum, from C. French), Swan River (A. M. Lea), Salt River (Australian Museum). Type, I. 6745.

The uniformly metallic head and elytra, with reddish, non-maculate prothorax, will readily distinguish this species from all others known to me, except *dentipes*, *pulchra*, and *appendiculata*, from all of which it differs in its larger size and (except for the front coxae) entirely dark legs. The apical joint of the palpi is large and with a feeble notch near the outer apex on both sexes. The transverse depression at the base of the pronotum is sometimes isolated, but occasionally connected with two feeble medio-discal depressions.

COPIDITA APPENDICULATA, n. sp.

Pl. xiii., fig. 54.

♂. Blackish and flavous. Clothed with short, sub-depressed, ashen pubescence.

Head rather strongly convex; about base with dense and sharply-defined punctures, smaller and sparser elsewhere; mandibles bifid. Eyes large, prominent, and very feebly notched. Antennae long and thin, eleventh joint slightly longer than tenth and simple. Apical joint of maxillary palpi rather large, outer side distinctly incurved, and at base with a conspicuous appendix. *Prothorax* distinctly longer than wide, sides rather strongly dilated near apex, base narrowly upturned, with a fairly large medio-basal depression, and a smaller and shallower one towards each side in front; punctures rather small and dense only on sides. *Elytra* about twice as wide as narrowest part of prothorax, with very vague remnants of discal costae; densely granulate-punctate. Tip of *abdomen* wide and very gently bisinuate. *Legs* long and thin. Length, $6\frac{1}{2}$ mm.

Hab.—New South Wales: Tweed River (Blackburn's collection). Type (unique), I. 6660.

The type (the female probably has simple palpi) has a conspicuous appendix to the apical joint of the palpi, the appendix being almost as long as the penultimate joint, but distinctly thinner; it is somewhat as on the male of *sloanei*, but the two species are otherwise very different. The flavous parts are the clypeus, labrum, base of mandibles, and middle of under-surface of head, prothorax (except for an infuscate spot on each side at the apical third), scutellum, mesosternum, part of metasternum, femora, labial, and parts of maxillary palpi.

COPIDITA INTERRUPTA, n. sp.

♂. Of a dingy pale flavous, with parts infuscated. Densely clothed with short, depressed, pale pubescence.

Head rather long, obliquely flattened between eyes; with dense and sharply-defined but not very large punctures; labrum large, with sharply-defined punctures; mandibles bifid.

Eyes large, widely and rather shallowly notched in front. Antennae long and thin, eleventh joint slightly shorter than tenth and conspicuously semidouble. Apical joint of maxillary palpi long, rather thin, and subreniform. *Prothorax* much longer than wide, sides rather suddenly inflated near apex, base narrowly upturned; with crowded and sharply-defined but rather small punctures. *Elytra* much wider than prothorax; each with four conspicuous discal costae, of which the third is shorter than the others; densely and finely granulate-punctate or shagreened. First segment of *abdomen* small, the fifth strongly bisinuate at apex. *Legs* long and thin. Length (σ , ♀), 11-19 mm.

♀ . Differs in being rather more robust, legs and antennae somewhat shorter, apical joint of palpi somewhat stouter, and apical segment of abdomen not bisinuate.

Hab.—Northern Queensland (Blackburn's collection), Mackay (National Museum), Port Alma (H. J. Carter), Brisbane (H. Hacker's No. 281, and Dr. A. J. Turner). Type, I. 6748.

Structurally fairly close to *nigronotata*, but the average size considerably larger (it is the largest known Australian species of the genus) and with very conspicuous markings. The infuscated parts are the space between and in front of the eyes, the labrum, tips of mandibles, parts of palpi, apical portion of each antennal joint, three conspicuous lines on pronotum (occupying most of its surface), most of elytra, parts of abdomen, knees, and parts of tibiae and tarsi; the elytra have a striped appearance owing to the elevated lines being paler (sometimes very conspicuously so) than the adjacent parts; they also have two (or three) sutural spaces that are paler than the other parts, and are bounded in front and behind by conspicuously dark parts (the surface there having a curiously interrupted appearance), one of the pale spaces is median, subquadrate, and terminated by the first discal elevation; there is a somewhat similar space between it and the apex, and the occasional third spot is half-way between the median one and the base; but on some specimens the subsutural markings are ill-defined; on an occasional specimen the infuscation extends to the metasternum. The surface of the pronotum is gently undulating rather than with distinct impressions; in the male at its narrowest it is only about half its length.

COPIDITA ILLOTA, n. sp.

♀ . Of a dingy pale flavous; head between eyes, antennae, palpi, pronotum, a lateral vitta on each elytron, knees, and parts of tibiae and of tarsi more or less infuscated. Densely clothed with short, pale, depressed pubescence.

Head rather large; with dense and sharply-defined but rather small punctures, less dense between eyes and on clypeus, and more crowded at base than elsewhere; with a shallow depression in front; mandibles bifid. Eyes large and rather widely notched. Antennae long and thin, eleventh joint slightly shorter than tenth and conspicuously semidouble. *Prothorax* slightly longer than wide, apical half with rounded and dilated sides, base gently incurved to middle and narrowly upturned; with a vague medio-basal depression and another towards each side in front, but the whole of the apical half (except the margin) gently depressed; with crowded and small but sharply-defined punctures. *Elytra* much wider than prothorax; surface shagreened rather than with distinct punctures; with vague remnants of discal costae. Apical segment of *abdomen* triangularly produced in middle. Length, 13 mm.

Hab.—Northern Territory: King River, March, 1916 (W. McLennan). Type in National Museum.

A dingy species, in general appearance close to *Oxaxis lateralis*, but with bifid mandibles; from *C. torrida* (to which, however, it is not very close) it differs in being opaque, prothorax considerably wider and with different punctures, elytra with but the vaguest remnants of discal costae, and in many particulars of colour. The pronotum is infuscated throughout, but the infuscation is less pronounced along the middle than on the sides, the vitta on each elytron is rather feeble, and extends from the shoulder to slightly beyond the middle, where it vanishes.

COPIDITA APICIFUSCA, n. sp.

♂. Black or blackish, and flavous. Moderately clothed with short, depressed, pale pubescence, paler on pronotum than elsewhere.

Head rather convex; with dense and rather small but sharply-defined punctures about base, becoming smaller and sparser elsewhere; mandibles bifid. Eyes large and shallowly notched in front. Antennae long and very thin, eleventh joint about as long as tenth and very feebly semidouble. *Prothorax* rather elongate, sides gently rounded on apical half and gently incurved on basal half, base narrowly upturned; with three shallow discal impressions; punctures dense and sharply defined but rather small. *Elytra* almost twice as wide as prothorax at base; each with four feeble costae, of which the fourth is very feeble and third practically absent; with small, dense, asperate punctures and shagreened. Length (♂, ♀), 7½-10 mm.

♀. Differs in being somewhat stouter, head slightly larger, with eyes more widely separated, antennae and legs somewhat shorter, and tip of abdomen gently rounded instead of truncate.

Hab.—Northern Queensland (— Northcote, in H. J. Carter's collection; H. Hacker's No. 217): Cairns (E. Allen). Type, I. 6749.

A rather small, dingy species; in general appearance like some of the paler species of *Oxacis*, but with bifid mandibles; the male has unusually thin antennae, and they are also very thin in the female. The prothorax is of a fairly bright flavous, but the elytra are opaque, paler and dingier, with the tips infuscated; the head is black, sometimes diluted with red between the eyes and with parts of the muzzle and its appendages obscurely reddish; the antennae vary from deep black to a rather dingy brown, the legs are mostly deeply infuscated, with the tibiae and coxae paler than the other parts, the prosternum and mesosternum are flavous, the rest of the under-surface more or less blackish.

OXACIS AUSTRALIS (Boi.), Blackb.

There are twenty-five specimens before me of the species redescribed by Blackburn as *Oedemera australis*, of Boisduval, but I cannot find on them any conspicuous external feature indicative of sex. The abdomen has the apical segment subtriangularly produced at its apex, and overhanging this (from the dorsal surface) is a subtriangular pubescent process, with its tip circular and truncated (so as to be practically a pygidium), and at the anal opening there is a hollow space in which the tip of an oedeagus or the tips of an ovipositor may occasionally be seen. There are certainly slight differences in the comparative widths of the apical joint of the maxillary palpi, and in the depth of its black margin (on some specimens it is entirely black), and some specimens have the front tarsi slightly wider than on others, but these are characters that are useless to prove the sex of a single specimen.

Var. *AURICOMUS*, n. var. Seven specimens (from Murray Bridge, Adelaide, and Yeelanna), and three from Lake Hattah, in Victoria, differ from the common form in having the pubescence of the upper-surface conspicuously golden (or ochreous), except that on the elytral suture it is very narrowly white;⁽⁵⁴⁾ its general shape is also rather narrower. One

(54) In redescribing the species all that Blackburn said of the clothing was "*breviter pubescens*"; as a matter of fact, on the typical form it is fairly dense, and as seen under a magnifying glass (especially on the dark parts) of a snowy-white.

specimen has an oedeagus protruding, and another an ovipositor, and both have the tip of the apical dorsal segment exactly as on the typical form.

OXACIS CAVICEPS, Blackb.

In the description of this species the prothorax was noted as having "*latitudine majori sat longe pone medium sita*," and again as "at the widest considerably behind the middle." A female co-type (from Lake Austin) has the greatest width of the prothorax at the most one-third from the apex, and in this a second female from Cue agrees with it.

OXACIS LATERALIS, Macl. (formerly *Ananca*).

By the courtesy of Mr. Shewan I have been able to examine the type of the species; it is a male, and having simple jaws it belongs, by the present system of classification, to *Oxacis*. There are also other specimens of the species before me from Cairns and Mackay. The dark parts of the prothorax are confined to the sides; the dark vittae of the elytra are sometimes confined to the shoulders, but occasionally extend almost to the tips; the "four obsolete longitudinal lines on each elytron" are sometimes not traceable, and when present are only distinct about the base; the "two large shallow depressions on the anterior half" of the pronotum are much more distinct on some specimens than on others. In general appearance it is strikingly close to *inquisitor*, but is rather more robust, with the prothorax not widest at the extreme apex, and with considerably larger and sharply-defined punctures; the punctures on the head are denser and slightly larger, but on the elytra they are much the same (as those of *inquisitor*).

OXACIS CONCAVICEPS, n. sp.

♂. Of a rather dingy flavous, with parts more or less deeply infuscated. Densely clothed with short, depressed, pale pubescence, less conspicuous on pronotum than elsewhere.

Head strongly concave from near the base to apex of clypeus; with small and rather inconspicuous punctures; mandibles simple. Antennae rather long and thin, eleventh joint very slightly longer than tenth, and with scarcely a trace of doubling. *Prothorax* slightly longer than wide, with three shallow discal impressions; with dense and small but sharply-defined punctures. *Elytra* almost twice the width of prothorax at base; with very feeble remnants of discal costae; surface shagreened. Length (♂, ♀), 6-9 mm.

♀. Differs in being slightly more robust, apical segment of abdomen slightly longer, with the tip more rounded, and in the legs and antennae being slightly shorter.

Hab.—North-western Australia (H. J. Carter, from H. M. Giles): Fortescue River (W. D. Dodd); South Australia: Peake (old collection). Type, I. 6661.

With the head longitudinally concave as in *caviceps*, but the elytra opaque, with much smaller punctures (they are so small and asperate that the surface appears shagreened), the costae feeble and traceable only about base, and the pale markings (when present) bounded by costae; the lateral vittae of the prothorax are also much less pronounced or absent. There is usually a conspicuous infuscation between the eyes; on the pronotum there is a distinct but not very sharply-defined median infuscate vitta, and the sides are lightly (if at all) infuscated; the elytra are usually rather deeply infuscated), with a conspicuously paler (but not sharply defined) patch occupying a fairly wide sutural space, from about the basal fourth to beyond the middle, thence becoming narrowly sutural; most of the abdomen is infuscated, the tips of the mandibles are black. On one specimen the median vitta of the pronotum is represented only by remnants at the base and apex; on the Peake specimen the pale portion of the elytra is more conspicuous than usual. Two specimens in Mr. Carter's collection probably belong to this species, their elytral markings to a certain extent are suggestive of those of *Copidita bipartita*, but they differ from Champion's description in having the mandibles simple, elytra with the costae not "rather sharp," and in some particulars of colour.

OXACIS MAJORINA, n. sp.

♀. Of a pale and rather dingy flavous or stramineous, elytra very vaguely infuscated towards the sides and posteriorly; tips of mandibles black. Rather densely clothed with short and somewhat golden, depressed pubescence.

Head lightly convex about base, widely and rather shallowly concave in front; with dense and sharply-defined but small punctures, becoming rather sparse in front; mandibles simple. Eyes large, lightly incurved in front. Antennae long and thin. *Prothorax* scarcely longer than the greatest width, sides gently dilated from near base to near apex, base narrowly upturned, with three feeble discal impressions; with crowded and small but rather sharply-defined punctures. *Elytra* considerably wider than base of prothorax; with scarcely visible remnants of discal costae, surface finely shagreened. Length, $11\frac{1}{2}$ - $12\frac{1}{2}$ mm.

Hab.—North-western Australia: Fortescue River (W. D. Dodd). Type, I. 6742.

With the concave head of the preceding species and of *caviceps*; from the former it differs in being larger, prothorax

conspicuously wider, with the vaguest remnants of depressions, and elytra very vaguely infuscated; from *caviceps* it differs in its wider prothorax, less conspicuous elytral costae, and absence of conspicuous markings. In general appearance it is much like *inquisitor* and *lateralis*, but the concave face is at once distinctive from those species. Mr. Dodd took three specimens, but the apical joint of the antennae is missing from each of them.

OXACIS CALOPTERA, n. sp.

Pl. xiii., fig. 28.

Flavous, three apical segments of abdomen infuscated; elytra with sharply-defined blackish markings, tips of mandibles black. Rather densely clothed with pale, depressed pubescence.

Head widely concave from base almost to apex; punctures inconspicuous; mandibles simple. Antennae long and thin, eleventh joint slightly longer than tenth, and with scarcely a trace of doubling. *Prothorax* distinctly longer than wide, sides moderately dilated about apex, base bilobed and lightly upturned, with three feeble discal impressions; with dense and small but rather sharply-defined punctures, sparser about middle than elsewhere. *Elytra* much wider than prothorax; with feeble remnants of costae; surface shagreened. Length, $7\frac{1}{2}$ -9 mm.

Hab.—North-western Australia: Ashburton River. Type in National Museum, from C. French; co-type, I. 6750, in South Australian Museum.

With the concave head of the two preceding species and of *caviceps*, but with sharply-defined and apparently distinctive elytral markings, on the type these are in three parts: a portion occupying about one-fifth of the base, with a jagged posterior outline, and two portions narrowly separated by the suture, and occupying on each side about one-half of the length of the elytra, and near the suture about one-third of their length. A second specimen has elytral markings exactly as on the type, but with the head infuscated between the eyes, and with traces of a median prothoracic vitta. As the apical segment of the abdomen is rather long, with the tip rounded, and as no genitalia are protruding from either, they are probably females.

OXACIS APICICOLLIS, n. sp.

Of a pale dingy flavous, some parts infuscated. Rather densely clothed with short, depressed, pale pubescence.

Head gently convex; with dense and small punctures, but sparser between eyes than elsewhere; mandibles simple. Eyes

large, shallowly notched in front. Antennae long and thin, eleventh joint the length of tenth and obscurely semidouble. *Prothorax* about as long as wide, sides rather strongly obliquely dilated from near base to near apex, and then gently rounded, apex distinctly incurved to middle, base incurved to middle and narrowly upturned, with a vague medio-basal depression, and one towards each side in front; with moderately dense, shallow, subasperate punctures, but becoming sharply defined on sides. *Elytra* much wider than base of prothorax; each with four rather feeble discal costae; with dense and fine punctures or shagreened. Length, 11-14 mm.

Hab.—Queensland: Raine Island and Claudie River (J. A. Kershaw). Type in National Museum; co-type, I. 6751, in South Australian Museum.

Nearer to *inquisitor* than to any other species known to me, but consistently larger, prothorax and head much wider, and colour and punctures different; from *lateralis* it is at once distinguished by its punctures. Mr. Kershaw took three specimens, of which one with a narrower prothorax than the others has been made the type, it is probably a male; the others are certainly females, and differ from it in being stouter, prothorax more dilated to apex (where the width is slightly more than the length), abdomen more convex and legs and antennae shorter; on the type the antennae extend to the tips of the elytra, on the others they end some distance before the tips. Most of the upper-surface of the head is deeply infuscated, there is a conspicuous but somewhat irregular median infusate vitta on the pronotum, and the sides are also infuscated, on the elytra the infuscation is lateral (but not marginal), and is more pronounced on the shoulders than posteriorly; parts of the abdomen and metasternum and the knees are lightly infuscated.

OXACIS VITTIPENNIS, n. sp.

♂. Pale flavous; an infusate stain between eyes, prothorax with a median infusate vitta touching apex but not base, each side with a vitta touching neither base nor apex, each elytron with two long infusate vittae, abdomen and metasternum infuscated in parts. Moderately densely clothed with short, depressed, whitish pubescence.

Head gently convex; with crowded and small but mostly sharply-defined punctures; mandibles simple. Eyes widely and shallowly notched. Antennae rather long and thin, eleventh joint the length of tenth and obscurely semidouble. *Prothorax* slightly longer than greatest width, sides rather strongly dilated from near base to near apex, and then gently

rounded, base narrowly upturned, with a fairly conspicuous medio-basal depression, and a very vague one towards each side in front; punctures small and rather dense on sides, sparser and less defined on disc. *Elytra* at base not much wider than apex of prothorax, with vague remnants of costae only at base; punctures small and asperate. Length, 9-11 mm.

Hab.—Queensland: Chillagoe and Ingham (H. J. Carter, from C. French). Type, I. 6662.

Structurally fairly close to *inquisitor*, but more shining, the elytra conspicuously striped, and prothorax not quite the same at apex. The stripes on each elytron are as follows:—
1. A pale sutural one gradually narrowed to the apex. 2. An infusate one, becoming feeble (on one specimen interrupted) close to its starting point, but then quite distinct to apex. 3. A pale one becoming wider to the base, where it joins in with the first. 4. An infusate one rather wide on the shoulder and narrowed to its tip, where (on two of the three specimens before me) it joins in with the second. 5. A pale marginal one. On one specimen, however, the fourth stripe is longitudinally divided towards its apex, so that there, there appear to be four pale and three infusate stripes.

OXACIS PICTICEPS, n. sp.

Pl. xiii., fig. 29.

♂. Black or blackish, some parts flavous. Densely clothed with short, depressed, whitish and ashen pubescence.

Head gently convex between eyes, vaguely depressed in front; with rather small and sharply-defined but not very dense punctures; mandibles simple. Antennae long and thin, eleventh joint distinctly longer than tenth and lightly semi-double. *Prothorax* slightly longer than wide, sides evenly dilated from base to near apex, and then gently rounded, base very feebly upturned; with three feeble depressions; with dense and rather sharply-defined but small punctures, sparser in middle than elsewhere. *Elytra* much wider than prothorax; with feeble remnants of costae, and with small, crowded punctures. Length (♂, ♀), 6-8½ mm.

♀. Differs in being slightly stouter, prothorax somewhat shorter, eyes not quite so prominent, apical segment of abdomen longer with its tip more produced, legs and antennae shorter, and apical joint of palpi smaller.

Hab.—South Australia: Murray River (H. S. Cope); Victoria: Birchip (J. C. Goudie's No. 403). Type, I. 6663.

A small species with elytra very distinctly marked (alike on the three specimens under examination). The head is

flavous, but with a wide median vitta extending from the base to the labrum (with the membranous space before the labrum pale), on its under-surface there are three longitudinal infuscate vittae; on the pronotum there is an obscurely diluted median line, and on two specimens some obscure marks about the base, on each elytron the suture about the base is narrowly pale, and then from about the basal third close beside (but not on) the suture there is a narrow vitta, which at about the apical fourth is suddenly dilated and continued till it vanishes near the apex, there is another narrow pale vitta, commencing at the middle of the base, and terminated slightly after the commencement of the subsutural vitta; the coxae and femora (except the knees) are also pale. The specimen from Birchip is not so dark as the others.

ISCHNOMERA SUBLINEATA, Waterh.

An abundant species on flowers in summer in many parts of Tasmania, and also to be taken in New South Wales and Victoria.

Var. *MONTICOLA*, n. var. Several specimens from Mount Kosciusko (taken by Mr. Helms between 5,700-6,000 feet) have the elytra with a more or less conspicuous purplish gloss, the prothoracic foveae deeper than usual, and the head with a conspicuously depressed space in front semicircularly terminated posteriorly between the eyes.

CERAMBYCIDAE.

ORICOPIS INTERCOXALIS, n. sp.

Blackish-brown; parts of legs paler, tubercles glossy-black. Closely covered with extremely short grey or greenish-grey pubescence; head, antennae, tibiae, tarsi, and tip of abdomen with straggling whitish hairs.

Head with median line very feeble in front, but distinct towards base; with conspicuous but not dense punctures in front. Antennae passing elytra, fourth joint almost twice the length of third or fifth. *Prothorax* with a strong conical tubercle on each side, with two strong conjoined tubercles on each side of middle, and with a small one in middle towards base; with scattered punctures, similar to those between eyes. *Elytra* much wider than prothorax, tips obliquely truncated, with short basal rows of glossy tubercles; with irregularly-distributed punctures, fairly large and numerous on basal half. *Prosternum* with a conspicuous glossy-tipped tubercle between the coxae; a smaller one (projecting obliquely forwards) between the middle coxae. Length, 13-14 mm.

Hab.—Queensland: Cairns district (A. M. Lea), Little Mulgrave River (H. Hacker). Type, I. 6157.

Readily distinguished from all others of the genus by the conspicuous projection between the front coxae. On each of the three specimens before me there are some straggling hairs near the tips of the elytra, but they are very few in number, and much less conspicuous than on *setipennis*; the clothing of the under-surface is uniform. In some lights and from certain directions the elytral pubescence has a vague purplish gloss. Of the conjoined tubercles on each side of the middle of the pronotum, the posterior one of each pair is almost exactly half-way between the base and apex, more conical and higher than the other, the median one towards the base is small but quite distinct. The tubercles are in two series on each elytron, the first (usually composed of five) commences in the middle of the base and curves round, so that if continued it would meet its fellow at the basal third, the other series is more irregular, composed of smaller tubercles, commences on the shoulder, and is also somewhat curved; on two specimens there is a vague longitudinal elevation on each elytron, and the scutellum is feebly depressed along the middle.

ORICOPIS SETIPENNIS, n. sp.

Blackish, some parts blackish-brown; parts of legs paler, tubercles glossy-black. Closely covered with short, greyish pubescence, appearing somewhat variegated on under-surface; elytra with fairly numerous, long, white, erect setae or hairs.

Head with median line distinct towards base but scarcely traceable in front; with fairly numerous punctures between eyes. *Antennae* passing elytra, fourth joint about once and one-half the length of third or fifth. *Prothorax* with tubercles somewhat as in preceding species; with numerous distinct but somewhat irregularly-distributed punctures. *Scutellum* distinctly impressed along middle. *Elytra* much wider than prothorax, tips gently rounded, on basal third with glossy, rounded tubercles of various sizes; with moderately large and dense punctures, becoming small and sparse posteriorly. *Mesosternum* with a small obtuse tubercle between coxae. Length, 10-12½ mm.

Hab.—Queensland: Cairns district (F. P. Dodd). Type, I. 6156.

Structurally nearer *guttatus* than any other species, but elytra very differently clothed. Of the two specimens in the Museum the larger one has lost its abdomen; its general colour is somewhat paler than that of the type, and its legs (parts of

femora excepted) are distinctly reddish; on the type only parts of the tarsi are reddish. The pubescence of the under-surface has a somewhat variegated appearance, but this is due mostly to its disposition; on the metasternum it is dense near the sides and sparser (but not altogether wanting) elsewhere, on the abdomen it is rather dense at the sides (except for a glabrous spot on each side of each of the four basal segments) but is very sparse elsewhere; on the abdomen of *guttatus*, although somewhat the same in kind, a considerably larger space on each side is densely clothed, and the middle is conspicuously glabrous. The tubercles on each side of the disc of the pronotum are more obtuse than on the preceding species, and appear more as points of an elevated ridge than as conjoined tubercles, the posterior one is slightly nearer the base than the apex, and slightly nearer the lateral one than the one in the middle towards the base. On each elytron there is a curved row of glossy tubercles commencing with some small ones in the middle of the base, and ending in some larger and more obtuse ones (almost the size of the scutellum) at the basal third; on each shoulder there are numerous small, glossy tubercles, and between these and the median row there is a straggling row that commences at the base and ends beyond the middle, the row consisting of from seven to nine tubercles.

ORICOPIS MACULIVENTRIS, n. sp.

Dark brown; palpi and parts of other appendages more or less reddish, tubercles glossy-blackish. Closely covered with very short greyish or somewhat stramineous pubescence, conspicuously variegated with patches and spots of ochreous.

Head with median line distinct throughout; punctures more or less concealed. *Antennae* considerably passing elytra, fourth joint somewhat curved, about once and one-third the length of third, the latter slightly longer than fifth. *Prothorax* about as long as wide, sides strongly bisinuate, with a conspicuous swelling (not a conical tubercle) in middle; each side of middle of disc with two conspicuous subconical tubercles; punctures fairly numerous, but in parts concealed. *Scutellum* longitudinally impressed. *Elytra* much wider than prothorax, tips obliquely truncated; each side of base with a curved row of small tubercles, and a few still smaller ones on shoulders; with numerous distinct punctures, becoming small and sparse posteriorly. *Mesosternum* with an obtuse swelling between coxae. Length, 16 mm.

Hab.—Queensland: Mount Tambourine (A. M. Lea). Type (unique), I. 6155.

The brighter coloured pubescence forms a conspicuous vertical stripe on each side of the head from an antenna to the tip; occupies the space between the four discal tubercles of the pronotum, and is continued almost to its base; is very irregularly disposed in spots and patches on the elytra, of which it occupies about one-third (or less) of the surface; forms a conspicuous round spot on each side of the metasternum; a spot on each side of the four basal segments of abdomen (diminishing in size posteriorly); one on each of the four hind femora, and a feeble one on each of the front tibiae. The tubercles on each side of the disc of the pronotum are fairly close together, but not conjoined as on others of the genus, and the swelling on each side is much more obtuse than on those species. The curved row of tubercles on each elytron commences, in the middle of the base, with a small subconical one, and ends with a small round one at the basal fourth; on the right side it consists of six and on the left of five tubercles; the humeral elevations are so small that they should be regarded as granules.

The typical species of the genus, *umbrosa*, is unknown to me; the present species differs from its description in its very different clothing, and isolated prothoracic tubercles; *intercoxalis* in having a conspicuous projection between the front coxae as well as a somewhat smaller one between the middle pair; *setipennis* has a conspicuous medio-basal tubercle on the prothorax, the elytra with tubercles not as described and with numerous scattered white setae or hairs; and *guttatus* has four conspicuous white spots on the elytra. These may be tabulated as follows:—

With a conspicuous projection between front coxae *intercoxalis*
Without such.

Pronotum without a median tubercle towards
base *maculiventris*

Pronotum with such.

Elytra with four conspicuous white spots ... *guttatus*

Without such *setipennis*

BRACHACIPTERA, n. g.

Head short; labrum membranous. Eyes rather large, reniform, widely separated, semicircularly notched, rather finely faceted. Antennae long and thin, not spinose. Palpi rather small. *Prothorax* slightly longer than wide, sides obtusely armed, incurved near apex and base. *Scutellum* rather large. *Elytra* at base much wider than prothorax, suddenly and strongly narrowed from base to about middle, and then thin and almost parallel-sided to apex. *Metasternum* prominent. *Abdomen* considerably below level of metasternum, rather thin, not covered by elytra, intercoxal process

narrow, subtriangular, and vertical. *Legs* long and thin, hind tibiae dilated.

I cannot find that this genus has been previously named or recorded from Australia or New Guinea; its nearest ally appears to be *Mecynopus*, from which it differs in having the elytra strongly narrowed from the inner, as well as from the outer, side (much as in *Agapete*); the sculpture of the outer discal parts are much as on some species of *Macrones*, but the eyes are notched. The four front coxae and their cavities are much as on *Mecynopus*, the eyes are larger, the upper portion conspicuously so, but the facets are slightly smaller. Type of genus, *tibialis*.

BRACHACIPTERA TIBIALIS, n. sp.

Blackish; elytra watery flavous, but a ridge from each shoulder to the narrow part, and the whole of the latter deeply infuscated, four front femora pale castaneous, but extreme base almost white, front tibiae castaneous on basal third, middle only near base, rest of four front legs black, hind femora almost white on basal half, basal half of tibiae and two basal joints of tarsi not much darker, rest of hind legs deeply infuscated; antennae deeply infuscated, but two basal joints and lower parts of several following ones castaneous. Moderately clothed with whitish pubescence, becoming almost black in places, head and prothorax in addition with rather long, dark hairs; elytra more sparsely clothed than rest of upper-surface.

Head with deep crowded punctures, but becoming sparse on clypeus, where the derm is shining; longitudinal impression deep only between antennae. Antennae passing abdomen for a short distance, first joint slightly shorter than third, third and fourth subequal, fifth and sixth longer, seventh-tenth slightly decreasing in length, eleventh slightly longer than tenth. *Prothorax* circularly constricted near apex, the sub-basal constriction not continuous across prosternum: with a subconical tubercle on each side and four obtuse swellings on disc (of these two are in the middle and two slightly behind them, but nearer to the median ones than to each other); with crowded punctures somewhat as on head. *Elytra* about once and one-half the width of prothorax, from about the middle each about half the width of head between antennae, base strongly trisinate, shoulders prominent; disc coarsely shagreened, outer portion elevated and with coarse punctures, apical half with dense and rather small punctures. Front *legs* long, but hardly more than half the length of the others; hind tibiae with apical two-fifths somewhat flat, conspicuously dilated and clothed with black pubescence. Length, 9-11 mm.

Hab.—Queensland: Mount Tambourine (W. W. Froggatt). Type, I. 7808.

A very interesting insect.

BRACHACIPTERA AURICOMA, n. sp.

Castaneous; head, antennae (two basal joints excepted), sterna, abdomen (the base almost white), and tarsi more or less deeply infuscated, elytra paler but infuscated outwardly, hind femora paler on basal half. Head, prothorax, and scutellum densely clothed with short, golden, suberect pubescence, similar pubescence elsewhere but sparser, the elytra very sparsely clothed. Length, 9-9½ mm.

Hab.—Northern Queensland (Blackburn's collection): Cairns district (F. P. Dodd). Type, I. 7809.

Close to the preceding species but differently clothed and somewhat different in colour, head with denser and finer punctures, antennae slightly stouter, lateral tubercles of prothorax very obtuse and the discal ones smaller, pale portion of elytra not shagreened but with small scattered punctures, incurvature between each shoulder and scutellum much less pronounced, middle legs scarcely longer than front ones, and hind tibiae less strongly inflated towards apex. On a second specimen the pubescence is less conspicuously golden than on the type.

CHRYSOMELIDAE.

HALTICORCUS, n. g.

Head rather small, face vertical. Eyes rather large and moderately faceted. Antennae moderately long, bases close together, six basal joints rather thin, the following five stout. Maxillary palpi not very long, apical joint acute, subapical subquadrate. *Prothorax* very widely transverse, non-sulcate, lateral margins very narrow. *Scutellum* small. *Elytra* very little longer than wide, sides strongly rounded; epipleurae wide, convex near base, concave at base itself and posteriorly, terminated near apex. *Legs* short and stout; front coxal cavities widely open behind; tibiae armed at apex with a feeble simple mucro; tarsi short, first and fourth joints subequal in length, claws each with a large basal appendix.

The apportionment of species to the genera of *Halticoides* tabled by Blackburn (*ante*, 1876, pp. 40, 41) requires that at least one specimen of every species shall be broken, as the leading character of that table (the front coxal cavities) is of such a nature that the prothorax must be separated from the mesothorax (and usually a front leg must be pulled out) to see the cavities at all clearly. This I have done with the present species, and in that table it would be placed in AA,

BB, CC, DD, E (the armature is small and traceable with difficulty on most specimens), F, G (on unbroken specimens the mesosternum appears to be hidden, but on breaking one, a narrow flange-like portion on each side that at first appears to be part of the intercoxal process of the metasternum is really seen to belong to the mesosternum; this is also the case with *Sphaerophyma simoni*), H, I, J; this brings us to *Sutrea* and *Phyllotreta*, to the species of which genera it is palpably widely different. I believe its correct position to be close to *Sphaerophyma*, and that the position of that genus in the table is due to faulty observation of its front coxal cavities and mesosternum. The species described below is hemispherical and in general appearance is strikingly close to *Orcus* (in my private collection I had two unset specimens standing for years as belonging to *Orcus*), but, of course, with the under-parts visible its subfamily is at once evident. It is one of the finest and most distinct species of the subfamily.

HALTICORCUS PLATYCERII, n. sp.

Bright metallic-blue (or green); head blackish with a flavous spot on forehead, elytra with four flavous spots, legs black or blackish, coxae, claw joint, and under-surface flavous, antennae with the apical and five basal joints flavous, the others black.

Head with very minute punctures; distance between antennae scarcely more than the encircling edges of their sockets. Antennae extending to abdomen, first joint about as long as the four following combined, second stouter but scarcely longer than third, fourth-sixth subequal, seventh moderately transverse, eighth-tenth more strongly so, eleventh distinctly longer than tenth, its apex subconical. *Prothorax* more than thrice the width of the median length, which is considerably more than that of the sides, with a shallow depression adjacent to margin; with sparse and minute punctures. *Elytra* with strongly rounded sides and shoulders, widest at about basal third, with very small punctures. Hind *femora* fully twice the width of the middle pair. Length, $3\frac{1}{4}$ - $3\frac{1}{2}$ mm.

Hab.—Queensland; New South Wales: Sydney, eating stag-horn ferns, *Platycerium grande* (W. W. Froggatt). Type, I. 7621.

The scutellum is pale, but not so pale as the elytral spots; of these the first on each elytron is round and basal, distinctly nearer the suture than side, the other is median and transverse, bilobed (sometimes acutely so) in front and oblique behind. The elytral punctures are very small, but in some lights and from certain directions they appear to be in feeble rows; there is, however, a fairly distinct row near each margin.

EXPLANATION OF PLATES.

PLATE XII.

Fig.	1.	...	<i>Cicindela antiqua</i> , Lea.
"	2.	...	<i>Laius miraculus</i> , Lea.
"	3.	...	" <i>mirocerus</i> , Lea.
"	4.	...	<i>Atractocerus tasmaniensis</i> , Lea, with wings removed.
"	5.	...	" <i>victoriensis</i> , Blackb., antenna.
"	6.	...	" " " apical joints of palpus.
"	7.	...	<i>Polyplocotes perforatus</i> , Lea, head and antennae.
"	8.	...	" " " " from side; A, perforation through head; B, tip of mandible.

PLATE XIII.

Fig.	9.	...	<i>Laius apicicollis</i> , Lea, elytral pattern.
"	10.	...	" <i>melanoderes</i> , Lea, elytral pattern.
"	11.	...	" <i>flavonotatus</i> , Lea, elytral pattern.
"	12, 13.	...	" <i>ammophilus</i> , Lea, elytral pattern.
"	14.	...	" <i>acervatus</i> , Lea, elytral pattern.
"	15.	...	" <i>stenotarsus</i> , Lea, elytral pattern.
"	16.	...	" <i>conconvifrons</i> , Lea, elytral pattern.
"	17.	...	" <i>filamentarius</i> , Lea, elytral pattern.
"	18.	...	" <i>flavifrons</i> , Lea, elytral pattern.
"	19.	...	" <i>aulacophoroides</i> , Lea, elytral pattern.
"	20.	...	" <i>variegatus</i> , Blackb., elytral pattern.
"	21.	...	" <i>pretiosus</i> , Blackb., elytral pattern.
"	22.	...	" <i>eyrensis</i> , Blackb., elytral pattern.
"	23.	...	" <i>quinenotatus</i> , Fairm., Var. 2, elytral pattern.
"	24.	...	<i>Copidita nigronotata</i> , Boh., elytral pattern.
"	25, 26.	...	" <i>languida</i> , Blackb., elytral pattern.
"	27.	...	" <i>sloanei</i> , Blackb., elytral pattern.
"	28.	...	<i>Oxaxis caloptera</i> , Lea, elytral pattern.
"	29.	...	" <i>picticeps</i> , Lea, elytral pattern.
"	30.	...	<i>Laius mirocerus</i> , Lea, prothorax from in front.
"	31.	...	" <i>apicicollis</i> , Lea, prothorax from the side.
"	32, 33.	...	" <i>melanoderes</i> , Lea, basal joints of antennae. (55)
"	34, 35.	...	" <i>flavonotatus</i> , Lea, basal joints of antennae.
"	36, 37.	...	" <i>acervatus</i> , Lea, basal joints of antennae.
"	38.	...	" <i>stenotarsus</i> , Lea, basal joints of antennae.
"	39.	...	" <i>conconvifrons</i> , Lea, basal joints of antennae.
"	40.	...	" <i>filamentarius</i> , Lea, basal joints of antennae.
"	41, 42.	...	" <i>flavifrons</i> , Lea, basal joints of antennae.
"	43, 44.	...	" <i>aulacophoroides</i> , Lea, basal joints of antennae.
"	45, 46.	...	" <i>pretiosus</i> , Blackb., basal joints of antennae.
"	47, 48.	...	" <i>eyrensis</i> , Blackb., basal joints of antennae.
"	49, 50.	...	" <i>quinenotatus</i> , Fairm., basal joints of antennae.

(55) The basal joints of the antennae of the males of *Laius* vary in apparent shape from almost every point of view.

Figs.	51, 52.	<i>Copidita sloanei</i> , Blackb., palpi.
"	53. ...	" <i>mira</i> , Lea, palpi.
"	54. ...	" <i>appendiculata</i> , Lea, palpi.

PLATE XIV.

Markings of right elytra of—

Figs.	55-59.	<i>Mordella australis</i> (Boi.), Lea.
"	60-65.	" <i>elegans</i> , Waterh.
"	66-70.	" <i>felix</i> , Waterh.
"	71-77.	" <i>hamatilis</i> , MacI.
"	78. ...	" sp.
"	79. ...	" <i>leucosticta</i> , Germ., var.
"	80. ...	" <i>multiguttata</i> , Waterh., var.
"	81, 82.	" <i>nigrans</i> , MacI.
"	83. ...	" <i>18-maculata</i> , Lea, var.
"	84. ...	" <i>ovalisticta</i> , MacI.
"	85-90.	" <i>promiscua</i> , Er.
"	91, 92.	" <i>conspecta</i> , Lea.
"	93. ...	" <i>chrysophora</i> , Lea.
"	94. ...	" <i>vitticollis</i> , Lea.
"	95, 96.	" <i>pygidialis</i> , Lea.

PLATE XV.

Markings of right elytra of—

Fig.	97. ...	<i>Mordella auronotata</i> , Lea.
"	98. ...	" <i>iridea</i> , Lea.
"	99. ...	" <i>metasternalis</i> , Lea.
"	100-102.	" <i>alphabetica</i> , Lea.
"	103-105.	" <i>norfolcensis</i> , Lea.
"	106. ...	" <i>notatipennis</i> , Lea.
"	107. ...	" <i>adipata</i> , Lea.
"	108-110.	" <i>calopasa</i> , Lea.
"	111. ...	" <i>quadrinaculata</i> , Lea.
"	112. ...	" <i>obliquirufa</i> , Lea.
"	113-115.	" <i>caloptera</i> , Lea.
"	116. ...	" <i>calodema</i> , Lea.
"	117. ...	" <i>blanda</i> , Lea.
"	118. ...	<i>Mordellistena concinna</i> , Lea.

Markings of pronota of—

Figs.	130, 131.	<i>Mordella auronotata</i> , Lea.
"	122. ...	" <i>ovalisticta</i> , MacI.
"	123. ...	" <i>conspecta</i> , Lea.
"	124. ...	" <i>chrysophora</i> , Lea.
"	125. ...	" <i>vitticollis</i> , Lea.
"	126. ...	" <i>pygidialis</i> , Lea.
"	127-129.	" <i>auronotata</i> , Lea.

Markings at side of metasternum and basal segment of abdomen of—

Figs.	130-131.	<i>Mordella auronotata</i> , Lea.
"	132. ...	" <i>iridea</i> , Lea.

Front tibia and tarsus of—

Fig.	133. ...	<i>Mordella tarsalis</i> , Lea.
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